

APS

09/083,574

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(FILE 'USPAT' ENTERED AT 10:03:36 ON 01 MAR 1999)

L1 2 S ASTACIN METALLOENDOPEPTIDASE
L2 21 S ASTACIN
L3 712 S DIROFILAR? OR IMMIT?
L4 22 S ?ASTACIN?
L5 14856 S ?PROTEASE?
L6 5281 S ?PEPTIDASE?
L7 5831 S PROTEOLY?(3A) ENZYM?

=> s 13 (25a) (14 or 15 or 16 or 17)

L8 13 L3 (25A) (L4 OR L5 OR L6 OR L7)

=> d bib ab 18 1-13

US PAT NO: 5,866,126 [IMAGE AVAILABLE] L8: 1 of 13
DATE ISSUED: Feb. 2, 1999
TITLE: Dirofilaria immitis GP29 antibodies and uses thereof
INVENTOR: Cynthia Ann Tripp, Ft. Collins, CO
Murray E. Selkirk, London, England
Robert B. Grieve, Windsor, CO
ASSIGNEE: Heska Corporation, Ft. Collins, CO (U.S. corp.)
APPL-NO: 08/833,622
DATE FILED: Apr. 8, 1997
ART-UNIT: 165
PRIM-EXMR: Anthony C. Caputa
ASST-EXMR: Mark Navarro
LEGAL-REP: Sheridan Ross P.C.

US PAT NO: 5,866,126 [IMAGE AVAILABLE] L8: 1 of 13

ABSTRACT:

The present invention relates to D. immitis Gp29 proteins, nucleic acid molecules having sequences that encode such proteins, antibodies raised against such proteins and inhibitors of D. immitis glutathione peroxidase. The present invention also includes methods to obtain such nucleic acid molecules, proteins, antibodies and inhibitors. The present invention also includes therapeutic compositions comprising such nucleic acid molecules, proteins, antibodies and inhibitors as well as their use to protect animals from disease caused by parasitic helminths, such as heartworm.

US PAT NO: 5,863,775 [IMAGE AVAILABLE] L8: 2 of 13
DATE ISSUED: Jan. 26, 1999
TITLE: Control of parasites
INVENTOR: Howard John Atkinson, Leeds, Great Britain
Vas Michael Koritsas, Leeds, Great Britain
Donald Lewis Lee, Leeds, Great Britain
Andrew Neilson MacGregor, Canterbury, Great Britain
Judith Elizabeth Smith, Leeds, Great Britain
ASSIGNEE: The University of Leeds, Leeds, England (foreign corp.)
APPL-NO: 08/702,682
DATE FILED: Dec. 20, 1996

ART-UNIT: 191
PRIM-EXMR: Nancy Degen
LEGAL-REP: William A. Barrett, Steven J. Hultquist

US PAT NO: 5,863,775 [IMAGE AVAILABLE] L8: 2 of 13

ABSTRACT:

The invention relates to a method of combating an animal parasite in a host which comprises delivering an anti-parasitic protein to the parasite or to a locus thereof by administering the protein to the host animal as a medicament or as a food. The anti-parasitic protein may be an inhibitor of an enzyme of the parasite, for example an inhibitor of a digestive enzyme such as a cysteine protease inhibitor. The parasite may be a helminth or a protozoan, for example, a nematode. According to one embodiment the anti-parasitic protein is expressed in a transgenic plant which may be a dietary crop for the host animal.

US PAT NO: 5,795,768 [IMAGE AVAILABLE] L8: 3 of 13
DATE ISSUED: Aug. 18, 1998
TITLE: Filariid nematode cysteine protease proteins, nucleic acid molecules and uses thereof
INVENTOR: Cynthia Ann Tripp, Fort Collins, CO
Nancy Wisnewski, Fort Collins, CO
Robert B. Grieve, Fort Collins, CO
Glenn R. Frank, Wellington, CO
ASSIGNEE: Heska Corporation, Fort Collins, CO (U.S. corp.)
Colorado State University Research Foundation, Fort Collins, CO (U.S. corp.)
APPL-NO: 08/486,036
DATE FILED: Jun. 7, 1995
ART-UNIT: 164
PRIM-EXMR: Bradley L. Sisson
LEGAL-REP: Heska CorporationColorado State University Research Foundation

US PAT NO: 5,795,768 [IMAGE AVAILABLE] L8: 3 of 13

ABSTRACT:

The present invention provides for filariid nematode cysteine **protease** proteins; to filariid nematode cysteine **protease** nucleic acid molecules, in particular, **Dirofilaria immitis** L3 larval cysteine **protease** nucleic acid molecules and *Onchocerca volvulus* L3 larval cysteine **protease** nucleic acid molecules; to antibodies raised against such proteins, and to compounds that inhibit filariid nematode cysteine protease activity. The present invention also includes methods to obtain such proteins, nucleic acid molecules, antibodies and/or inhibitors. The present invention also includes therapeutic compositions comprising such proteins, nucleic acid molecules, antibodies and/or inhibitors, and the use of such compositions to protect an animal from disease caused by parasitic helminths.

US PAT NO: 5,792,624 [IMAGE AVAILABLE] L8: 4 of 13
DATE ISSUED: Aug. 11, 1998
TITLE: **Dirofilaria** and onchocerca larval L3 cysteine **protease** proteins and uses thereof
INVENTOR: Cynthia Ann Tripp, Fort Collins, CO
Nancy Wisnewski, Fort Collins, CO
Robert B. Grieve, Fort Collins, CO
Glenn R. Frank, Wellington, CO
Jennifer K. Richer, Denver, CO
ASSIGNEE: Heska Corporation, Fort Collins, CO (U.S. corp.)
Colorado State University Research Foundation, Fort

Collins, CO (U.S. corp.)
APPL-NO: 08/482,282
DATE FILED: Jun. 7, 1995
ART-UNIT: 164
PRIM-EXMR: Bradley L. Sisson
LEGAL-REP: Heska CorporationColorado State University Research
Foundation

US PAT NO: 5,792,624 [IMAGE AVAILABLE]

L8: 4 of 13

ABSTRACT:

The present invention provides for filariid nematode cysteine **protease** proteins; to filariid nematode cysteine **protease** nucleic acid molecules, in particular, **Dirofilaria immitis** L3 larval cysteine **protease** nucleic acid molecules and *Onchocerca volvulus* L3 larval cysteine **protease** nucleic acid molecules; to antibodies raised against such proteins, and to compounds that inhibit filariid nematode cysteine protease activity. The present invention also includes methods to obtain such proteins, nucleic acid molecules, antibodies and/or inhibitors. The present invention also includes therapeutic compositions comprising such proteins, nucleic acid molecules, antibodies and/or inhibitors, and the use of such compositions to protect an animal from disease caused by parasitic helminths.

US PAT NO: 5,750,391 [IMAGE AVAILABLE] L8: 5 of 13
DATE ISSUED: May 12, 1998
TITLE: Filariid nematode cysteine protease proteins
INVENTOR: Cynthia Ann Tripp, Ft. Collins, CO
Glenn R. Frank, Ft. Collins, CO
Robert B. Grieve, Windsor, CO
ASSIGNEE: Heska Corporation, Ft. Collins, CO (U.S. corp.)
APPL-NO: 08/463,989
DATE FILED: Jun. 5, 1995
ART-UNIT: 184
PRIM-EXMR: Robert A. Wax
ASST-EXMR: Kawai Lau
LEGAL-REP: Sheridan Ross P.C.

US PAT NO: 5,750,391 [IMAGE AVAILABLE]

L8: 5 of 13

ABSTRACT:

The present invention relates to parasite astacin metalloendopeptidase and filariid cysteine protease proteins, nucleic acid molecules having sequences that encode such proteins, antibodies raised against such proteins and compounds that can inhibit the activities of parasite astacin metalloendopeptidases or cysteine proteases. The present invention also includes methods to obtain such nucleic acid molecules, proteins, antibodies and inhibitors. The present invention also includes therapeutic compositions comprising such nucleic acid molecules, proteins, antibodies and inhibitors as well as their use to protect animals from disease caused by parasites, such as heartworm.

US PAT NO: 5,714,484 [IMAGE AVAILABLE] L8: 6 of 13
DATE ISSUED: Feb. 3, 1998
TITLE: .alpha.-(1,3-dicarbonylenol ether) methyl ketones as
cysteine protease inhibitors
INVENTOR: Mary P. Zimmerman, Pleasanton, CA
Robert E. Smith, Livermore, CA
Mark Becker, Walnut Creek, CA
ASSIGNEE: Prototek, Inc., Dublin, CA (U.S. corp.)
APPL-NO: 08/481,808
DATE FILED: Jun. 7, 1995
ART-UNIT: 122

PRIM-EXMR: Mukuno J. Shah
ASST-EXMR: Tamthom T. Ngo
LEGAL-REP: Woodard, Emhardt, Naughton, Moriarty & McNett

US PAT NO: 5,714,484 [IMAGE AVAILABLE] L8: 6 of 13

ABSTRACT:

Cysteine protease inhibitors which deactivate the protease by covalently bonding to the cysteine protease and releasing the enolate of a 1,3-dicarbonyl (or its enolic form). The cysteine protease inhibitors of the present invention accordingly comprise a first portion which targets a desired cysteine protease and positions the inhibitor near the thiolate anion portion of the active site of the protease, and a second portion which covalently bonds to the cysteine protease and irreversibly deactivates that protease by providing a carbonyl or carbonyl-equivalent which is attacked by the thiolate anion of the active site of the cysteine protease to sequentially cleave a .beta.-dicarbonyl enol ether leaving group.

US PAT NO: 5,691,186 [IMAGE AVAILABLE] L8: 7 of 13
DATE ISSUED: Nov. 25, 1997
TITLE: Filariid cysteine protease genes
INVENTOR: Cynthia Ann Tripp, Ft. Collins, CO
Glenn R. Frank, Ft. Collins, CO
Robert B. Grieve, Windsor, CO
ASSIGNEE: Heska Corporation, Ft. Collins, CO (U.S. corp.)
APPL-NO: 08/463,262
DATE FILED: Jun. 5, 1995
ART-UNIT: 184
PRIM-EXMR: Robert A. Wax
ASST-EXMR: Kawai Lau
LEGAL-REP: Sheridan Ross P.C.

US PAT NO: 5,691,186 [IMAGE AVAILABLE] L8: 7 of 13

ABSTRACT:

The present invention relates to parasite astacin metalloendopeptidase and filariid cysteine protease proteins, nucleic acid molecules having sequences that encode such proteins, antibodies raised against such proteins and compounds that can inhibit the activities of parasite astacin metalloendopeptidases or cysteine proteases. The present invention also includes methods to obtain such nucleic acid molecules, proteins, antibodies and inhibitors. The present invention also includes therapeutic compositions comprising such nucleic acid molecules, proteins, antibodies and inhibitors as well as their use to protect animals from disease caused by parasites, such as heartworm.

US PAT NO: 5,686,080 [IMAGE AVAILABLE] L8: 8 of 13
DATE ISSUED: Nov. 11, 1997
TITLE: Parasitic helminth p4 proteins
INVENTOR: Cynthia Ann Tripp, Ft. Collins, CO
Glenn Robert Frank, Ft. Collins, CO
Robert B. Grieve, Ft. Collins, CO
ASSIGNEE: Heska Corporation, Ft. Collins, CO (U.S. corp.)
Colorado State University Research Foundation, Ft.
Collins, CO (U.S. corp.)
APPL-NO: 08/459,019
DATE FILED: Jun. 2, 1995
ART-UNIT: 182
PRIM-EXMR: Hazel F. Sidberry
LEGAL-REP: Sheridan Ross P.C.

US PAT NO: 5,686,080 [IMAGE AVAILABLE] L8: 8 of 13

ABSTRACT:

The present invention relates to isolated parasitic helminth nucleic acid sequences capable of hybridizing, under stringent conditions, to at least a portion of *D. immitis* nucleic acid sequence p4 and/or to at least a portion of *D. immitis* nucleic acid sequence p22U; to isolated parasitic helminth proteins that are encoded by such parasitic helminth nucleic acid sequences and that are capable of selectively binding to at least one component of immune serum capable of inhibiting helminth development; and to antibodies raised against such isolated parasitic helminth proteins. The present invention also relates to therapeutic compositions comprising such isolated nucleic acid sequences, proteins and/or antibodies. The present invention also includes methods to produce and use such nucleic acids, proteins, antibodies and therapeutic compositions capable of protecting animals from parasitic helminth infection and, particularly, from heartworm infection.

US PAT NO: 5,639,876 [IMAGE AVAILABLE] L8: 9 of 13
DATE ISSUED: Jun. 17, 1997
TITLE: Nucleic acid molecules encoding novel parasitic helminth proteins
INVENTOR: Cynthia Ann Tripp, Ft. Collins, CO
Glenn Robert Frank, Ft. Collins, CO
Robert B. Grieve, Ft. Collins, CO
ASSIGNEE: Heska Corporation, Ft. Collins, CO (U.S. corp.)
Colorado State University Research Foundation, Ft. Collins, CO (U.S. corp.)
APPL-NO: 08/109,391
DATE FILED: Aug. 19, 1993
ART-UNIT: 182
PRIM-EXMR: Hazel F. Sidberry
LEGAL-REP: Sheridan Ross P.C.

US PAT NO: 5,639,876 [IMAGE AVAILABLE] L8: 9 of 13

ABSTRACT:

The present invention relates to isolated parasitic helminth nucleic acid sequences capable of hybridizing, under stringent conditions, to at least a portion of *D. immitis* nucleic acid sequence p4 and/or to at least a portion of *D. immitis* nucleic acid sequence p22U; to isolated parasitic helminth proteins that are encoded by such parasitic helminth nucleic acid sequences and that are capable of selectively binding to at least one component of immune serum capable of inhibiting helminth development; and to antibodies raised against such isolated parasitic helminth proteins. The present invention also relates to therapeutic compositions comprising such isolated nucleic acid sequences, proteins and/or antibodies. The present invention also includes methods to produce and use such nucleic acids, proteins, antibodies and therapeutic compositions capable of protecting animals from parasitic helminth infection and, particularly, from heartworm infection.

US PAT NO: 5,618,532 [IMAGE AVAILABLE] L8: 10 of 13
DATE ISSUED: Apr. 8, 1997
TITLE: *Dirofilaria immitis* Gp29 proteins and uses thereof
INVENTOR: Cynthia A. Tripp, Ft. Collins, CO
Murray E. Selkirk, London, England
Robert B. Grieve, Windsor, CO
ASSIGNEE: Heska Corporation, Ft. Collins, CO (U.S. corp.)
APPL-NO: 08/462,177
DATE FILED: Jun. 5, 1995
ART-UNIT: 184
PRIM-EXMR: Keith D. Hendricks
LEGAL-REP: Sheridan Ross P.C.

ABSTRACT:

The present invention relates to *D. immitis* Gp29 proteins, nucleic acid molecules having sequences that encode such proteins, antibodies raised against such proteins and inhibitors of *D. immitis* glutathione peroxidase. The present invention also includes methods to obtain such nucleic acid molecules, proteins, antibodies and inhibitors. The present invention also includes therapeutic compositions comprising such nucleic acid molecules, proteins, antibodies and inhibitors as well as their use to protect animals from disease caused by parasitic helminths, such as heartworm.

US PAT NO: 5,569,603 [IMAGE AVAILABLE]

L8: 11 of 13

DATE ISSUED: Oct. 29, 1996

TITLE: *Dirofilaria immitis* GP29 proteins, nucleic acid molecules and uses thereofINVENTOR: Cynthia A. Tripp, Ft. Collins, CO
Murray E. Selkirk, London, England
Robert B. Grieve, Windsor, CO

ASSIGNEE: Heska Corporation, Ft. Collins, CO (U.S. corp.)

APPL-NO: 08/208,885

DATE FILED: Mar. 8, 1994

ART-UNIT: 184

PRIM-EXMR: Keith D. Hendricks

LEGAL-REP: Sheridan Ross & McIntosh

US PAT NO: 5,569,603 [IMAGE AVAILABLE]

L8: 11 of 13

ABSTRACT:

The present invention relates to *D. immitis* Gp29 proteins, nucleic acid molecules having sequences that encode such proteins, antibodies raised against such proteins and inhibitors of *D. immitis* glutathione peroxidase. The present invention also includes methods to obtain such nucleic acid molecules, proteins, antibodies and inhibitors. The present invention also includes therapeutic compositions comprising such nucleic acid molecules, proteins, antibodies and inhibitors as well as their use to protect animals from disease caused by parasitic helminths, such as heartworm.

US PAT NO: 5,492,695 [IMAGE AVAILABLE]

L8: 12 of 13

DATE ISSUED: Feb. 20, 1996

TITLE: Vaccinating cats against *Dirofilaria immitis* with an L4 homogenateINVENTOR: Robert B. Grieve, La Porte, CO
Glenn Frank, Fort Collins, CO

ASSIGNEE: Colorado State University Research Foundation, Fort Collins, CO (U.S. corp.)

APPL-NO: 07/882,790

DATE FILED: May 14, 1992

ART-UNIT: 183

PRIM-EXMR: Mary E. Mosher

ASST-EXMR: Anthony C. Caputa

LEGAL-REP: Sheridan Ross & McIntosh

US PAT NO: 5,492,695 [IMAGE AVAILABLE]

L8: 12 of 13

ABSTRACT:

It has been found that hosts which are susceptible to nematode parasite infections can readily be protected from such infections when the parasites are not adapted for a parasite/host relationship to this host. In particular, feline hosts were immunized against heartworm using a

variety of antigens derived from *Dirofilaria immitis* and related nematodes. Because cats are hosts susceptible to this nonadapted parasite, such antigens are successfully protective.

US PAT NO: 4,761,281 [IMAGE AVAILABLE] L8: 13 of 13
DATE ISSUED: Aug. 2, 1988
TITLE: Vaccine from *Dirofilaria* extracts
INVENTOR: George H. Scherr, Park Forest, IL
ASSIGNEE: ImmunoMed Corporation, Tampa, FL (U.S. corp.)
APPL-NO: 06/854,853
DATE FILED: Apr. 22, 1986
ART-UNIT: 153
PRIM-EXMR: Howard E. Schain
LEGAL-REP: Pettis & McDonald

US PAT NO: 4,761,281 [IMAGE AVAILABLE] L8: 13 of 13

ABSTRACT:

A vaccine for protecting animals against infection by *Dirofilaria* which comprises fractions of extracts of the adult organisms of *Dirofilaria*.

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=> index bioscience patents

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BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHABS, BIOTECHDS, CABA,
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CAPLUS, CEABA, CEN, CIN, CONFSCI, CROPB, CROPU, DDFB, DDFU, DGENE,
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DRUGLAUNCH, DRUGMONOG2, DRUGNL, ...' ENTERED AT 12:31:41 ON 01 MAR 1999

67 FILES IN THE FILE LIST IN STNINDEX

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=> s (dirofilar? or immit?) and (astacin? or protease? or peptidase? or
metalloendo? or (proteoly?(3a)enzym?))

10 FILE AGRICOLA
8 FILES SEARCHED...
33 FILE BIOSIS
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31 FILE CAPLUS
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1 FILE CONFSCI
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31 FILES HAVE ONE OR MORE ANSWERS, 67 FILES SEARCHED IN STNINDEX

L1 QUE (DIROFILAR? OR IMMIT?) AND (ASTACIN? OR PROTEASE? OR PEPTIDASE? OR
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CAPLUS, CEABA, CEN, CIN, CONFSCI, CROPB, CROPU, DDFB, DDFU, DGENE,
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FILE 'USPATFULL, DGENE, BIOSIS, CAPLUS, SCISEARCH, MEDLINE, CABA,
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metalloendo? or (proteoly?(3a)enzym?))

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6 FILES SEARCHED...
11 FILES SEARCHED...
L3 357 (DIROFILAR? OR IMMIT?) AND (ASTACIN? OR PROTEASE? OR
PEPTIDASE?
OR METALLOENDO? OR (PROTEOLY?(3A) ENZYM?))

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ENTER L# LIST OR (END):13

DUPLICATE IS NOT AVAILABLE IN 'DGENE, GENBANK'.
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PROCESSING COMPLETED FOR L3
L4 . 240 DUP REM L3 (117 DUPLICATES REMOVED)

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L4 ANSWER 1 OF 240 USPATFULL
TI Methods for screening for antimycotics
AN 1999:21907 USPATFULL
TI Methods for screening for antimycotics
IN Moehle, Charles M., Hayward, CA, United States
PA Ribogene, Inc., Hayward, CA, United States (U.S. corporation)
PI US 5871923 19990216
AI US 97-802626 19970219 (8)
RLI Division of Ser. No. US 94-328258, filed on 24 Oct 1994, now patented,
Pat. No. US 5641627 which is a continuation-in-part of Ser. No. US
93-142880, filed on 25 Oct 1993, now abandoned
DT Utility
REP US 4792520 Dec 1988 435/006.000 Stambrook et al.
WO 9423041 Oct 1994
REN Leppert et al., Genetics, vol. 125, 1990, pp. 13-20.
Balei et al., J. Biol. Chem., vol. 262, 1987, pp. 16871-16879.
Alani et al., "A Method for Gene Disruption That Allows Repeated Use of
URA3 Selection in the Construction of Multiply Disrupted Yeast
Strains,"
Genetics 116:541-545 (1987).
Balzi and Goffeau, "Multiple or pleiotropic drug resistance in yeast,"
Biochem. Biophys. Acta 1073:241-252 (1991).
Belcourt and Farabough, "Ribosomal Frameshifting in a Yeast
Retrotransposon TY: tRNAs Induce Slippage on a 7 Nucleotide Minimal
Site," Cell 62:339-352 (1990).
Boeke et al., A positive selection for mutants lacking
orotidine-5'-phosphate decarboxylase activity in yeast *Saccharomyces
cerevisiae*: 5-fluoro-orotic acid resistance, : Mol. Gen. Genetics
197:345-346 (1984).
Brugge, "New Intracellular Targets for Therapeutic Drug Design,"
Science
260:918-919 (1993).
Cashel and Rudd, "The Stringent Response, *Escherichia coli* and
Salmonella Typhimurium," Cellular and Molecular Biology, ed. F.C.
Neidhardt (Washington D.C., American Society for Microbiology 1987)
2:1410-1438.
Chien et al., "The two-hybrid system: A method to identify and clone
genes for proteins that interact with a protein of interest," Proc.
Natl. Acad. Sci. USA 88:9578-9582 (1991).
Christianson et al., "Multifunctional yeast high-copy number shuttle
vectors," Gene 110:119-122 (1992).
Clare and Oliver, "The Regulation of RNA Synthesis in Yeast," Mol. Gen.
Genet. 188:96-102 (1982).
Clark, "New Approaches for Antifungal Drugs," ed. P.B. Fernandes
(Boston:Birkhauser 1992) pp. 1-19.
Colthurst et al., "Elongation factor 3 (EF-3) from *Candida albicans*

show

- both structural and functional similarity to EF-3 from *Saccharomyces cerevisiae*," *Molecular Microbiology* 6:1025-1033 (1992).
- Colthurst et al., "Candida Albicans and three other Candida species contain an elongation factor structurally and functionally analogous to elongation factor 3," *FEMS Microbiology Letters* 80:45-50 (1991).
- Dancis et al., Ferric reductase of *Saccharomyces cerevisiae*: Molecular characterization, role in iron uptake, and transcriptional control, *Proc. Natl. Acad. Sci. USA* 89:3869-3873 (1992).
- Dever et al., "Phosphorylation of Initiation Factor 2.alpha. by Protein Kinase GCN2 Mediates Gene-Specific Translational Control of GCN4 in Yeast," *Cell* 68:585-596 (1992).
- Eberhart et al., "Species Differences in the Toxicity and Cytochrome P450 IIIA-Dependent Metabolism of Digitoxin," *Mol. Pharmacol.* 40:859-867 (1991).
- Erickson and Johnston, "Direct Cloning of Yeast Genes from an Ordered Set of Lambda Clones in *Saccharomyces cerevisiae* by Recombination in vivo," *Genetics* 134:151-157 (1993).
- Ezekial and Elkins, The Stimulation of Ribonucleic Acid Synthesis by Ribosome Inhibitors in Amino Acid-Starved *Escherichia coli*, *Biochem. Biophys. Acta* 166:466-474 (1968).
- The Federal Register 47 (No. 56): 12558-12564 (1982).
- Fields and Song, "A novel genetic system to detect protein-protein interactions," *Nature* 340:245-246 (1989).
- Firoozan et al., "Quantitation of Readthrough of Termination Codons in Yeast using a Novel Gene Fusion Assay," *Yeast* 7:173-183 (1991).
- Graybill, "New Antifungal Agents," *Eur. J. Clin. Microbiol. Infect.* 8:402-412 (1989).
- Gross and Pogo, "Control of Ribonucleic Acid Synthesis in Eukaryotes 3. The Effect of Cycloheximide and Edeine on RNA Synthesis in Yeast," *Biochemistry* 15:2082-2086 (1976).
- Hershey, "Translation Control in Mammalian Cells," C.C. Richardson ed., *Ann. Rev. of Biochem. (Annual Review, Inc. 1991)* 60:717-755.
- Higgins et al., "Turnover of mRNA in prokaryotes and lower eukaryotes," *Curr. Opin. in Gen. and Dev.* 2:739-747 (1992).
- Hinnebusch and Liebman, "Protein Synthesis and Translational Control in *Saccharomyces cerevisiae*," *The Molecular Biology of the Yeast Saccharomyces*, eds. J.R. Broach, J.R. Pringle and E.W. Jones (New York: CSH Laboratory Press, 1991) pp. 627-735.
- Hinnenbush et al., "A synthetic HIS4 regulatory element confers general amino acid control on the cytochrome c gene (2CYC1) of yeast," *Proc. Natl. Acad. Sci. USA* 82:498-502 (1985).
- Huston and Logan, "Detoxification of the organophosphorus insecticide chlorfenvinphos by rat, rabbit and human liver enzymes," *Xenobiotica* 16:87-93 (1986).
- Hwang et al., "Construction of a Promoter-Probe Vector with the PH05 Gene Encoding Repressible Acid Phosphate in *Saccharomyces cerevisiae*," *Appl. Microbiol. Biotechnol.* 28:155-159 (1988).
- Hwang et al., "The Identification of a Domain in *Escherichia coli* Elongation Factor Tu That Interacts with Elongation Factor Ts," *J. Biol. Chem.* 267-22198-22205 (1992).
- Hwang et al., "Mutagenesis of Bacterial Elongation Factor Tu at Lysine 136," *J. Biol. Chem.* 264:8304-8309 (1989).
- Koltin, "Targets for Antifungal Drug Discovery," *Annual Reports in Medicinal Chemistry*, ed. James A. Bristol, Harcourt Brace Jovanovich, San Diego, Academic Press, Inc., 25:141-148 (1989).
- Lanker et al., "Autoregulation of the Yeast Lysyl-tRNA Synthetase Gene Gcd5/KRS1 by Translation and Transcriptional Control Mechanisms," *Cell* 70:647-657 (1992).
- Leeds et al., "Gene Products That Promote mRNA Turnover in *Saccharomyces cerevisiae*," *Mol. Cell. Biol.* 12:2615-2177 (1992).
- Lindahl and Hinnebusch, "Diversity of mechanisms in the regulation of

translation in prokaryotes and lower eukaryotes," *Curr. Opin. in Gen. and Dev.* 2:720-726 (1992).

Merrick, "Mechanism and Regulation of Eukaryotic Protein Synthesis," *Microbiological Reviews* 56:291-315 (1992).

Min and Zassenhaus, "Identification of a Protein Complex That Binds to

a Dodecamer Sequence Found at the 3' Ends of Yeast Mitochondrial mRNAs," *Mol. Cell. Biol.* 13:4167-4173 (1993).

Miranda et al., "Falvin-Containing Monoxygenase: A Major Detoxifying Enzyme for the Pyrrolizidine Alkaloid Senecionine in guinea Pig Tissues," *Biochem. Biophys. Res. Commun.* 178:546-552 (1991).

Moehele and Hinnebusch, "Association of RAP1 Binding Sites With Stringent Control of Ribosomal Protein Gene Transcription in *Saccharomyces cerevisiae*," *Mol. Cell. Biol.* 11:2723-2735 (1991).

Nieuwint et al., "Mutational analysis of the upstream activation site

of yeast ribosomal protein genes," *Cell* 71:97-105 (1992).

Nelson et al., "The Translation Machinery and 70 kd Heat Shock Protein Cooperate in Protein Synthesis," *Current Genetics* 15:247-251 (1989).

Oliver and McLaughlin, "The Regulation of RNA Synthesis in Yeast 1: Starvation Experiments," *Mol. Gen. Genetics* 154:145-153 (1977).

Paull et al., "The Synthesis of XTT: A New Tetrazolium Reagent that is Bioreducible to a Water-Soluble Formazan," *J. Heterocyclic Chem.* 25:911-914 (1988).

Pon and Schatz, "Biogenesis of Yeast Mitochondria," *The Molecular Biology of the Yeast Saccharomyces*, eds. J.R. Broach, J.R. Pringle, and E.W. Jones (New York: CSH Laboratory Press 1991) pp. 333-406.

Qin et al., "Sequence Analysis of the Translational Elongation Factor 3 From *Saccharomyces cerevisiae*," *J. Biol. Chem.* 265:1903-1912 (1990).

Rameriz et al., "Mutations Activating the Yeast eIF-2.alpha. Kinase GCN2: Isolation of Alleles Altering the Domain Related to Histidyl-tRNA Synthetases," *Mol. Cell. Biol.* 12:5801-5815 (1992).

Ray and Butow, "Regulation of Mitochondrial Ribosomal RNA Synthesis in Yeast," *Mol. Gen. Genet.* 173:227-238 (1979).

Sandbaken et al., "Protein Synthesis in Yeast. Structural and

functional analysis of the gene encoding elongation factor 3," *J. Biol. Chem.* 265:15838-15844 (1990).

Sandbaken et al., "Isolation and characterization of the structural

gene encoding elongation factor 3," *Biochem. Biophys. Acta* 1050:230-234 (1990).

Siegel, "Effect of Fungicides on Protein Synthesis," *Antifungal Compounds*, sr. ed. Hugh D. Sister (New York, Marcel Dekker, Inc. 1977) vol. 2:399-348.

Sikorski and Hieter, "A System of Shuttle Vectors and Yeast Host

Strains Designed for Efficient Manipulation of DNA in *Saccharomyces cerevisiae*," *Genetics* 122:19-27 (1989).

Silver and Bostian, "Screening of Natural Products for Antimicrobial Agents," *Euro. J. Clin. Microbiol. Infect. Dis.* 9:455-461 (1990).

Stateva and Venkov, "Genetic Analysis of *Saccharomyces cerevisiae* SY 15 relaxed mutant," *Mol. Gen. Genet.* 195:234-237 (1984).

Tuite and Plesset, "mRNA-Dependent Yeast Cell-Free Translation Systems: Theory and Practice," *Yeast* 2:35-52 (1986).

Tuite, "Antifungal drug development: the identification of new

targets," *Trends in Biotechnology*, 10:235-239 (1992).

Vignais and Sentenac, "Asymmetric DNA Bending Induced by the Yeast Multifunctional Factor TUF," *J. Biol. Chem.* 264:8463-8466 (1989).

Vignais et al., "Contacts between the Factor TUF and RPG Sequences," *J. Biol. Chem.* 265:14669-14674 (1990).

Waltschewa et al., "Relaxed Mutant of *Saccharomyces cerevisiae*: Proper Maturation of Ribosomal RNA in Absence of Protein Synthesis," *Cell*

33:221-230 (1983).
 Warner and Gorenstein, "Yeast has a true stringent response," Nature 275:338-339 (1978).
 Waxman et al., "Gene-Specific Oligonucleotide Probes for .alpha., .mu., .eta. and Microsomal Rat Glutathione-S-Transferases: Analysis of Liver Transferase Expression and Its Modulation by Hepatic Enzyme Inducers and Platinum Anticancer Drugs," Cancer Res. 52:5797-5802 (1992).
 Weislow et al., "New Soluble-Formazan Assay for HIV-1 Cytopathic Effects: Application to High-Flux Screening of Synthetic and natural Products for AIDS-Antiviral Activity," J. Canc. Inst. 81:577-586 (1989).
 Wek et al., "Truncated Protein Phosphatase GLC7 Restores Translational Activation of GCN4 Expression in Yeast Mutants Defective for the eIF-2.alpha. Kinase GCN2," Mol. Cell. Biol. 12:5700-5710 (1992).
 Widner and Wickner, "Evidence that the SKI Antiviral System that Saccharomyces cerevisiae Acts by Blocking Expression of Viral mRNA," Mol. Cell. Biol. 13:4331-4341 (1993).
 Yang et al., "A Protein Kinase Substrate Identified by the Two-Hybrid System," Science 257:680-682 (1991).
 Yoshida et al., "Function of the PHO regulatory genes for repressible acid phosphatase synthesis in Saccharomyces cerevisiae," Mol Gen Genet 217:40-46 (1989).
 Zhong and Arndt, "The Yeast SIS 1 Protein, a DnaJ Homolog, is Required for the Initiation of Translation," Cell 73:1175-1186 (1993).
 Paluh et al., 1988, "The cross-pathway control gene of Neurospora crassa, cpc-1, encodes a protein similar to GCN4 of yeast and DNA-binding domain of the oncogene v-jun-encoded protein," Proc. Natl. Acad. Sci. U.S.A. 85:3728-3732.

EXNAM Primary Examiner: Ketter, James
 LREP Pennie & Edmonds LLP
 CLMN Number of Claims: 72
 ECL Exemplary Claim: 1
 DRWN 11 Drawing Figure(s); 8 Drawing Page(s)
 AB Screening methods for identification of antimy-cotic agents active in mycotic cell translation, the agents identified thereby, and uses of these agents.

PARN RELATED APPLICATION

This is a division, of application Ser. No. 08/328,258, filed Oct. 24, 1994, now U.S. Pat. No. 5,641,627, which is a continuation-in-part of Moehle, U.S. patent application Ser. No. 08/142,880, filed Oct. 25, 1993, now abandoned, entitled "Methods for Screening for Antimycotics," the whole of which is hereby incorporated by reference.

This invention relates to methods for screening for agents useful for treatment of mycoses, fungal infections or infestations, the novel agents identified using such screening methods, and their use as antifungal or antimycotic agents.

SUMM BACKGROUND OF THE INVENTION

Human Fungal and other mycotic pathogens (some of which are described in Mycoses, E. S. Beneke, Upjohn Co.:Kalamazoo, Mich., 1979; Opportunistic Mycoses of Man and Other Animals, J. M. B. Smith, CAB International:Wallingford, UK, 1989; and Scrip's Antifungal Report, by PJB Publications Ltd, 1992) are responsible for a variety of diseases in humans, animals, and plants ranging from mycoses involving skin, hair, or mucous membranes, such as, but not limited to, Aspergillosis, Black piedra, Candidiasis, Chromomycosis, Cryptococcosis, Onychomycosis, or Otitis externa (otomycosis), Phaeohyphomycosis, Phycomycosis, Pityriasis

versicolor, ringworm, *Tinea barbae*, *Tinea capitis*, *Tinea corporis*,
Tinea cruris, *Tinea favosa*, *Tinea imbricata*, *Tinea manuum*, *Tinea nigra*
(palmaris), *Tinea pedis*, *Tinea unguium*, Torulopsosis, Trichomycosis
axillaris, White piedra, and their synonyms, to severe systemic or
opportunistic infections, such as, but not limited to, Actinomycosis,
Aspergillosis, Candidiasis, Chromomycosis, Coccidioidomycosis,
Cryptococcosis, Entomophthoromycosis, Geotrichosis, Histoplasmosis,
Mucormycosis, Mycetoma, Nocardiosis, North American Blastomycosis,
Paracoccidioidomycosis, Phaeohyphomycosis, Phycomycosis, pneumocystic
pneumonia, Pythiosis, Sporotrichosis, and Torulopsosis, and their
synonyms, some of which may be fatal. Known fungal and mycotic
pathogens include, but are not limited to, *Absidia* spp., *Actinomadura madurae*,
Actinomyces spp., *Allescheria boydii*, *Alternaria* spp., *Anthopsis*
deltoidea, *Apophysomyces elegans*, *Arnim leoporum*, *Aspergillus* spp.,
Aureobasidium pullulans, *Basidiobolus ranarum*, *Bipolaris* spp.,
Blastomyces dermatitidis, *Candida* spp., *Cephalosporium* spp.,
Chaetoconidium spp., *Chaetomium* spp., *Cladosporium* spp., *Coccidioides*
immitis, *Conidiobolus* spp., *Corynebacterium tenuis*, *Cryptococcus*
spp., *Cunninghamella bertholletiae*, *Curvularia* spp., *Dactylaria* spp.,
Epidermophyton spp., *Epidermophyton floccosum*, *Exserophilum* spp.,
Exophiala spp., *Fonsecaea* spp., *Fusarium* spp., *Geotrichum* spp.,
Helminthosporium spp., *Histoplasma* spp., *Lecythophora* spp., *Madurella*
spp., *Malassezia furfur*, *Microsporum* spp., *Mucor* spp., *Mycocentrospora*
acerina, *Nocardia* spp., *Paracoccidioides brasiliensis*, *Penicillium*
spp., *Phaeosclera dematioides*, *Phaeoannellomyces* spp., *Phialemonium obovatum*,
Phialophora spp., *Phoma* spp., *Piedraia hortai*, *Pneumocystis carinii*,
Pythium insidiosum, *Rhinocladiella aquaspersa*, *Rhizomucor pusillus*,
Rhizopus spp., *Saksenaea vasiformis*, *Sarcinomyces phaeomuriformis*,
Sporothrix schenckii, *Syncephalastrum racemosum*, *Taeniolella boppii*,
Torulopsosis spp., *Trichophyton* spp., *Trichosporon* spp., *Ulocladium*
chartarum, *Wangiella dermatitidis*, *Xylohypha* spp., and their synonyms.
Other fungi that "obviously have pathogenic potential" (Smith, op. cit.)
include, but are not limited to, *Thermomucor indicae-seudaticae*,
Radiomyces spp., and other species of known pathogenic genera. There
are also reports implicating *Saccharomyces* as a human pathogen (e.g.,
Fungemia with *Saccharomycetacea*, H. Nielson, J. Stenderup, & B. Bruun,
Scand. J. Infect. Dis. 22:581-584, 1990). In recent years there has
been a marked increase in the number of serious mycoses as a result of the
growing number of immunosuppressed and immunocompromised individuals,
such as transplant recipients, patients receiving chemotherapy, and
HIV-infected individuals.

Fungal infection is also a significant problem in veterinary medicine
including, but not limited to, candidiasis, cryptococcosis,
aspergillosis, mucormycosis, pythiosis, entomophthoromycosis,
oomycosis, chromomycosis, torulopsosis, infections with *Penicillium* spp.,
Trichosporon spp., *Paecilomyces* spp., *Microsporum* spp., and a variety
of miscellaneous/rarer opportunistic mycoses (Opportunistic Mycoses of Man
and Other Animals, J. M. B. Smith, CAB International, Wallingford, UK,
1989). Fungal infections are a common cause of nasal disease in dogs
and cats (Fungal Diseases of the Nasal Cavity of the Dog and Cat, Wolf, A.
M., 1992, Vet. Clin. of North Amer.: Small Anim. Prac. 22, 1119-1132). A
variety of fungi, including, but not limited to, *Aspergillus* spp.,
Candida spp., *Paecilomyces* spp., *Penicillium* spp., *Alternaria* spp.,
Geotrichum spp., and *Cladosporium* spp., have been isolated from animal
eyes and may cause fungal keratitis in several species including, but
not limited to, horses, dogs, and cats (Microbiology of the Canine and

Feline Eye, P.A. Gerding and I. Kakoma, 1990, Vet. Clin. of North Amer.:Small Anim. Prac. 20, 615-625). Skin infections by fungi, including, but not limited to, *Microsporum canis*, *Trichophyton mentagrophytes*, *Trichophyton verucosum*, *Microsporum equinum*,

Microsporum

gallinae, and *Microsporum nanum*, occur in many different animals, both wild and domestic with some infections being specific to a given host species (Fungal Skin Infections Associated with Animal Contact, W. H. Radentz, 1991, AFP 43, 1253-1256).

Some of the fungi that infect animals can be transmitted from animals to humans. Fungal zoonotic diseases are most commonly associated with animals used as pets, with a higher frequency found among veterinary personnel owing to higher levels of contact with animals (ibid., M. R. Lappin, Vet. Clin. of North Amer. :Small Anim. Prac. 23, 57-78.). Topical and systemic antifungal agents are used to treat both humans and animals.

Fungal infections or infestations are also a very serious problem in agriculture with fungicides being employed to protect vegetable, fruit, and nut crops (F. L. McEwen and G. R. Stephenson, 1979, The Use and Significance of Pesticides in the Environment. Wiley, N.Y.). Fungicides are applied to soil, seeds, propagating material, growing plants, and produce to combat pathogens. Seed and soilborne pathogens include but are not limited to *Aphanomyces* spp., *Armillaria* spp., *Cephalosporium* spp., *Cylindrocladium* spp., *Fusarium* spp., *Helminthosporium* spp., *Macrophomina* spp., *Magnaporthe* spp., *Ophiobolus* spp., *Phymatotrichum* spp., *Phytophthora* spp., *Pythium* spp., *Rhizoctonia* spp., *Sclerotium*

spp.,

Sclerotinia spp., *Thielaviopsis* spp., *Ustilago* spp., *Verticillium* spp., and *Whetzelinia* spp., (R. Rodriguez-Kabana, P. A. Backman, and E. A. Curl, Control of Seed and Soil-Borne Plant Diseases. In Antifungal Compounds, M. Siegel and H. Sisler, eds., Marcel Dekker Inc., N.Y., 1977). Post-harvest diseases of fresh fruits and vegetable are caused

by

fungi including, but not limited to, *Alternaria* spp., *Botrytis* spp., *Centrospora* spp., *Ceratocystis* spp., *Colletotrichum* spp.,

Cryptosporiosis

spp., *Diplodia* spp., *Fusarium* spp., *Helminthosporium* spp. *Monilinia* spp., *Nectria* spp., *Oospora* spp., *Penicillium* spp., *Phlyctaena* spp., *Phoma* spp., *Phomopsis* spp., *Rhizopus* spp., *Sclerotinia* spp., and *Verticillium* spp.

It has been estimated that fungicides are employed in the growing of one-half of the world's crops (G.

Ordish and J. F. Mitchell. 1967, World Fungicide Usage. In Fungicides, an Advanced Treatise, Vol. 1, pp.39-62. D.C. Torgeson, ed. Academic Press, N.Y.) either to control disease during crop development, to improve the storage of produce, or to increase production of a particular crop. Approximately 20% of U.S. non-pasture crop land is treated with fungicides (E. W. Palm, Estimated Crop Losses Without the Use of Fungicides and Nematicides and Without Nonchemical Controls. CRC Handbook of Pest Management in Agriculture, Vol. 1, p.139f.). In economic terms, the cessation of fungicide use would result in losses

to

field crops, vegetable crops, and fruit and nut crops estimated to

total

over two billion dollars (ibid.). Some crops would be particularly hard hit, e.cr, peanut losses would be expected to be >70% of the total

crop,

pecan losses >65% of the total crop, tomato losses >60% of the total crop, potato losses >40% of the total crop, and fruits such as apples,

cherries, peaches, and pears each >50% of their total crop (ibid.).

Fungal attack of wood products is also of major economic importance with an estimated one billion dollars in damage annually (not including damage to living trees) in the U.S., even with the extensive use of existing preservatives (M. P. Levi, Fungicides in Wood Preservation, In Antifungal Compounds, M. Siegel and H. Sisler, eds., Marcel Dekker

Inc., N.Y., 1977). Hundreds of fungal species have been isolated from wood products. Surface molds result from infestation by genera including,

but not limited to, Trichoderma spp., Gliocladium spp., Penicillium spp., Aspergillus spp., and Alternaria spp. Sap stain fungi include, but are not limited to, Ceratocystis spp., Diplodia spp., Graphium spp., Aureobasidium spp., and Cytospora spp. Decay fungi responsible for a large proportion of the economic losses include, but are not limited

to, Coniophora spp., Lentinus spp., Lenzites spp., Polyporus spp., Poria spp., and Merulius spp. Soft-rot fungi include, but are not limited to, Ascomycetes spp., Chaetomium spp., and Fungi Imperfecti.

Additional products that are susceptible to fungal infestation include textiles, plastics, paper, rubber, adhesives, emulsion polymers, leather, cosmetics, household disinfectants, deodorants, and paint. (C.C. Yeager, Fungicides in Industry, in Antifungal Compounds, M.

Siegel and H. Sisler, eds., Marcel Dekker Inc., N.Y., 1977). More work has been

done on paint than on any other substrate. Fungi that attack painted
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L4 ANSWER 1 OF 240 USPATFULL
 TI Methods for screening for antimycotics

L4 ANSWER 2 OF 240 USPATFULL
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 molecule or assembly capable of discriminating perfect hybrids from
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TI	Methods for increasing secretion of overexpressed proteins		
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TI	Pharmaceutical dipeptide compositions and methods of use thereof: systemic toxicity		
L4	ANSWER 31 OF 240	USPATFULL	

TI Compounds and methods for making and using same

L4 ANSWER 32 OF 240 USPATFULL

TI Compounds and methods for making and using same

L4 ANSWER 33 OF 240 USPATFULL

TI Vaccine containing a protein complex form *Haemonchus contortus*

L4 ANSWER 34 OF 240 USPATFULL

TI Sequence-directed DNA-binding molecules compositions and methods

L4 ANSWER 35 OF 240 USPATFULL

TI Sequence-directed DNA-binding molecules compositions and methods

L4 ANSWER 36 OF 240 USPATFULL

TI Nematode vaccine

L4 ANSWER 37 OF 240 USPATFULL

TI Methods for normalizing numbers of lymphocytes

L4 ANSWER 38 OF 240 USPATFULL

TI Screening assay for the detection of DNA-binding molecules

L4 ANSWER 39 OF 240 USPATFULL

TI Method of constructing sequence-specific DNA-binding molecules

L4 ANSWER 40 OF 240 USPATFULL

TI .alpha.-(1,3-dicarbonylenol ether) methyl ketones as cysteine **protease** inhibitors

L4 ANSWER 41 OF 240 TOXLIT

TI Filariid nematode cysteine **protease** proteins, nucleic acid molecules and their uses to treat infection.

L4 ANSWER 42 OF 240 EUROPATFULL COPYRIGHT 1999 WILA

TIEN Production and use of anthelmintic agents and protective immunogens.

L4 ANSWER 43 OF 240 SCISEARCH COPYRIGHT 1999 ISI (R)

TI Purification and characterisation of a secreted aminopeptidase from adult *Ascaris suum*

L4 ANSWER 44 OF 240 CAPLUS COPYRIGHT 1999 ACS DUPLICATE 5

TI Antibody to the *Dirofilaria immitis* aspartyl **protease** inhibitor homolog is a diagnostic marker for feline heartworm infections

L4 ANSWER 45 OF 240 SCISEARCH COPYRIGHT 1999 ISI (R)

TI Effect of **protease** class-specific inhibitors on in vitro development of the third- to fourth-stage larvae of *Ascaris suum*

L4 ANSWER 46 OF 240 SCISEARCH COPYRIGHT 1999 ISI (R)

TI Cytosolic neutral proteinases of *Paracoccidioides brasiliensis*

L4 ANSWER 47 OF 240 PROMT COPYRIGHT 1999 IAC

TI Heska granted six patents for novel vaccine delivery system, flea allergens and heartworm antigens

L4 ANSWER 48 OF 240 PROMT COPYRIGHT 1999 IAC

TI Heska Granted Six Patents for Novel Vaccine Delivery System, Flea Allergens and Heartworm Antigens

L4 ANSWER 49 OF 240 PROMT COPYRIGHT 1999 IAC

TI Heska Granted Six Patents for Novel Vaccine Delivery Systems, Flea Control and Heartworm Antigens

L4 ANSWER 50 OF 240 PROMT COPYRIGHT 1999 IAC

TI Heska granted six patents for vaccine delivery systems, flea Control and heartworm antigens
Received patents for vaccines for flea and heartworm control

L4 ANSWER 51 OF 240 USPATFULL DUPLICATE 6

TI Filariid cysteine **protease** genes

L4 ANSWER 52 OF 240 USPATFULL DUPLICATE 7

TI Inhibitors of metazoan parasite **proteases**

L4 ANSWER 53 OF 240 USPATFULL

TI Synergistic antifungal protein and compositions containing same

L4 ANSWER 54 OF 240 USPATFULL

TI Telomerase activity assays for diagnosing pathogenic infections

L4 ANSWER 55 OF 240 USPATFULL

TI Methods for making nucleoside analogs

L4 ANSWER 56 OF 240 USPATFULL

TI Method of ordering sequence binding preferences of a DNA-binding molecule

L4 ANSWER 57 OF 240 USPATFULL

TI Method of stabilizing enzyme conjugates

L4 ANSWER 58 OF 240 USPATFULL

TI Parasitic helminth p4 proteins

L4 ANSWER 59 OF 240 USPATFULL

TI DNA encoding natural killer lytic associated protein

L4 ANSWER 60 OF 240 USPATFULL

TI Nucleotide analogues

L4 ANSWER 61 OF 240 USPATFULL

TI Nucleotide analogs

L4 ANSWER 62 OF 240 USPATFULL

TI Therapy and diagnosis of conditions related to telomere length and/or telomerase activity

L4 ANSWER 63 OF 240 USPATFULL

TI Production and purification of a protein fused to a binding protein

L4 ANSWER 64 OF 240 USPATFULL

TI Methods for screening for antimycotics

L4 ANSWER 65 OF 240 USPATFULL

TI Nucleic acid molecules encoding novel parasitic helminth proteins

L4 ANSWER 66 OF 240 USPATFULL

TI **Dirofilaria immitis** Gp29 proteins and uses thereof

L4 ANSWER 67 OF 240 EUROPATFULL COPYRIGHT 1999 WILA

TIEN PREPARATION AND USE OF TRANSFER FACTOR.

L4 ANSWER 68 OF 240 SCISEARCH COPYRIGHT 1999 ISI (R)

TI Secretion of an aminopeptidase during transition of third- to fourth-stage

larvae of *Ascaris suum*

- L4 ANSWER 69 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 8
TI Differentially expressed, abundant trans-spliced cDNAs from larval *Brugia malayi*.
- L4 ANSWER 70 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 9
TI Effects of inhibitors of serine **protease**, phenoloxidase and dopa decarboxylase on the melanization of *Dirofilaria immitis* microfilariae with *Armigeres subalbatus* haemolymph in vitro.
- L4 ANSWER 71 OF 240 SCISEARCH COPYRIGHT 1999 ISI (R)
TI *Trichuris suis*: Thiol **protease** activity from adult worms
- L4 ANSWER 72 OF 240 SCISEARCH COPYRIGHT 1999 ISI (R)
TI **Proteolytic enzymes** of infective larvae and adults of *Trichostrongylus colubriformis* and *Haemonchus contortus*
- L4 ANSWER 73 OF 240 PROMT COPYRIGHT 1999 IAC
TI Heska Granted Four Patents For Parasite Antigens
- L4 ANSWER 74 OF 240 CAPLUS COPYRIGHT 1999 ACS DUPLICATE 10
TI Cloning of filariid nematode cysteine **protease** cDNA, treatment of infection, and assays for inhibitors of the **protease**
- L4 ANSWER 75 OF 240 USPATFULL
TI Sequence-directed DNA-binding molecules compositions and methods
- L4 ANSWER 76 OF 240 USPATFULL
TI *Dirofilaria immitis* GP29 proteins, nucleic acid molecules and uses thereof
- L4 ANSWER 77 OF 240 USPATFULL
TI Synergistic antifungal protein and compositions containing same
- L4 ANSWER 78 OF 240 USPATFULL
TI *Haemonchus contortus* vaccine
- L4 ANSWER 79 OF 240 USPATFULL
TI Synergistic antifungal protein and compositions containing same
- L4 ANSWER 80 OF 240 USPATFULL
TI Vaccinating cats against *Dirofilaria immitis* with an L4 homogenate
- L4 ANSWER 81 OF 240 CAPLUS COPYRIGHT 1999 ACS
TI Heteroaromatic inhibitors of metazoan parasite **proteases** for treatment of schistosomiasis, malaria, and other infectious diseases
- L4 ANSWER 82 OF 240 TOXLIT
TI Cloning of filariid nematode cysteine **protease** cDNA, treatment of infection, and assays for inhibitors of the **protease**.
- L4 ANSWER 83 OF 240 EUROPATFULL COPYRIGHT 1999 WILÀ
TIEN VACCINES AGAINST METAZOAN PARASITES.
- L4 ANSWER 84 OF 240 SCISEARCH COPYRIGHT 1999 ISI (R)
TI Cloning of a cysteine **protease** required for the molting of *Onchocerca volvulus* third stage larvae
- L4 ANSWER 85 OF 240 SCISEARCH COPYRIGHT 1999 ISI (R)
TI EXPRESSION OF PZ-**PEPTIDASES** BY CULTURES OF SEVERAL PATHOGENIC FUNGI - PURIFICATION AND CHARACTERIZATION OF A COLLAGENASE FROM *TRICHOPHYTON SCHOENLEINII*

L4 ANSWER 86 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 11
 TI Carboxy-terminal sequence divergence and processing of the polyprotein antigen from *Dirofilaria immitis*.

L4 ANSWER 87 OF 240 CAPLUS COPYRIGHT 1999 ACS DUPLICATE 12
 TI Cloning of cDNA for parasitic **proteases** and their uses for preparing anti-parasite agents

L4 ANSWER 88 OF 240 USPATFULL
 TI Transfer factor and methods of use

L4 ANSWER 89 OF 240 BIOTECHDS COPYRIGHT 1999 DERWENT INFORMATION LTD
 TI Parasite **protease** genes and proteins;
 nematode recombinant **astacin metalloendopeptidase**
 and cysteine **protease** production, for application in parasite infection therapy

L4 ANSWER 90 OF 240 MEDLINE
 TI Purification and characterization of an acid proteinase from *Dirofilaria immitis* worms.

L4 ANSWER 91 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS
 TI Characterization of a subtilisin-like proprotein convertase from *Dirofilaria immitis*: A candidate **protease** for processing the "ladder" protein of filarial nematodes.

L4 ANSWER 92 OF 240 SCISEARCH COPYRIGHT 1999 ISI (R)
 TI CYSTEINE **PROTEASE** OF THE NEMATODE NIPPOSTRONGYLUS-BRASILIIENSIS PREFERENTIALLY EVOKES AN IGE/IGG1 ANTIBODY-RESPONSE IN RATS

L4 ANSWER 93 OF 240 SCISEARCH COPYRIGHT 1999 ISI (R)
 TI **DIROFILARIA-IMMITIS** - IMMUNOHISTOCHEMICAL LOCALIZATION OF ACID PROTEINASE IN THE ADULT WORM

L4 ANSWER 94 OF 240 CAPLUS COPYRIGHT 1999 ACS DUPLICATE 13
 TI Inhibitors of metazoan parasite **proteases**

L4 ANSWER 95 OF 240 SCISEARCH COPYRIGHT 1999 ISI (R)
 TI IMMUNODIAGNOSTIC POTENTIAL OF A FILARIAL **PROTEASE**

L4 ANSWER 96 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 14
 TI Cloning of a dibasic processing endoprotease from *Dirofilaria immitis*: A candidate **protease** for processing the polyprotein allergen of nematodes.

L4 ANSWER 97 OF 240 CAPLUS COPYRIGHT 1999 ACS DUPLICATE 15
 TI **Protease** vaccine against heartworm

L4 ANSWER 98 OF 240 TOXLIT
 TI **Protease** vaccine against heartworm.

L4 ANSWER 99 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS
 TI Synthetic peptides of human lysosomal cathepsin G with potent antipseudomonal activity.

L4 ANSWER 100 OF 240 SCISEARCH COPYRIGHT 1999 ISI (R)
 TI DETECTION OF **PROTEOLYTIC-ENZYMES** RELEASED BY THE DIMORPHIC FUNGUS PARACOCIDIODES-BRASILIIENSIS

L4 ANSWER 101 OF 240 SCISEARCH COPYRIGHT 1999 ISI (R)
 TI PURIFICATION AND PARTIAL CHARACTERIZATION OF AN ACID PROTEINASE FROM *DIROFILARIA-IMMITIS*

L4 ANSWER 102 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 16

TI **Dirofilaria immitis**: Effect of fluoromethyl ketone
cysteine **protease** inhibitors on the third- to fourth-stage molt.

L4 ANSWER 103 OF 240 CAPLUS COPYRIGHT 1999 ACS
TI **Proteases** produced by **Dirofilaria immitis**
third- and fourth-stage larvae

L4 ANSWER 104 OF 240 SCISEARCH COPYRIGHT 1999 ISI (R)
TI IDENTIFICATION OF AN ESTROGEN-BINDING PROTEIN IN PSEUDOMONAS-AERUGINOSA

L4 ANSWER 105 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 17
TI **DIROFILARIA-IMMITIS** **PROTEASES** PRODUCED BY
THIRD AND FOURTH-STAGE LARVAE.

L4 ANSWER 106 OF 240 SCISEARCH COPYRIGHT 1999 ISI (R)
TI VIRULENCE PROPERTIES AND NONIMMUNE PATHOGENETIC MECHANISMS OF FUNGI

L4 ANSWER 107 OF 240 USPATFULL
TI Immunization implant and method

L4 ANSWER 108 OF 240 CAPLUS COPYRIGHT 1999 ACS
TI Anticoagulant and anthelmintic proteins and methods for the production
and
use of same

L4 ANSWER 109 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 18
TI ONCHOCERCA-VOLVULUS ONCHOCERCA-GUTTUROSA BRUGIA-MALAYI AND
DIROFILARIA-IMMITIS A COMPARATIVE STUDY OF THE
IMMUNOCHEMICAL PROPERTIES OF CUTICULAR PROTEINS FROM FILARIAL PARASITES.

L4 ANSWER 110 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS
TI CHARACTERIZATION OF A CYSTEINE **PROTEASE** INHIBITOR FROM
DIROFILARIA-IMMITIS.

L4 ANSWER 111 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 19
TI IMMUNOCHEMICAL STUDIES OF ASPERGILLUS-FUMIGATUS MYCELIAL ANTIGENS BY
POLYACRYLAMIDE GEL ELECTROPHORESIS AND WESTERN BLOTTING TECHNIQUES.

L4 ANSWER 112 OF 240 USPATFULL
TI Oxygenated alkyl substituted bicyclo alkanes

L4 ANSWER 113 OF 240 USPATFULL
TI Process for obtaining transfer factor from colostrum, transfer factor
so
obtained and use thereof

L4 ANSWER 114 OF 240 USPATFULL
TI Cytoplasmic antigens of candida albicans and methods of using the same

L4 ANSWER 115 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 20
TI IMMUNOAFFINITY ISOLATION AND PARTIAL CHARACTERIZATION OF THE
COCCIDIOIDES-
IMMITIS ANTIGEN DETECTED BY THE TUBE PRECIPITIN AND
IMMUNODIFFUSION-TUBE PRECIPITIN TESTS.

L4 ANSWER 116 OF 240 MEDLINE
TI Characterization of a proteinase inhibitor isolated from the fungal
pathogen Coccidioides **immitis**.

L4 ANSWER 117 OF 240 MEDLINE
TI Antigenic structure of Coccidioides **immitis**.

L4 ANSWER 118 OF 240 USPATFULL
TI Vaccine from **Dirofilaria** extracts

L4 ANSWER 119 OF 240 CABA COPYRIGHT 1999 CABI
 TI The biochemistry of **Dirofilaria immitis**.

L4 ANSWER 120 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 21
 TI POSSIBLE ROLE OF A PROTEINASE IN ENDOSPORULATION OF COCCIDIOIDES-
IMMITIS.

L4 ANSWER 121 OF 240 USPATFULL
 TI Oxygenated alkyl substituted bicyclo alkanes

L4 ANSWER 122 OF 240 USPATFULL
 TI Monoclonal antibody to Candida albicans cytoplasmic antigens and
 methods
 of preparing same

L4 ANSWER 123 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 22
 TI IDENTIFICATION AND PARTIAL CHARACTERIZATION OF A PARASITE ANTIGEN IN SERA
 FROM HUMANS INFECTED WITH WUCHERERIA-BANCROFTI.

L4 ANSWER 124 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 23
 TI PROTEINASE PRODUCTION BY THE PARASITIC CYCLE OF THE PATHOGENIC FUNGUS
 COCCIDIOIDES-**IMMITIS**.

L4 ANSWER 125 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 24
 TI ISOLATION AND CHARACTERIZATION OF AN EXTRACELLULAR PROTEINASE OF
 COCCIDIOIDES-**IMMITIS**.

L4 ANSWER 126 OF 240 CAPLUS COPYRIGHT 1999 ACS DUPLICATE 25
 TI Plasmodium berghei: a study of a globinolytic enzyme in erythrocytic
 parasite

L4 ANSWER 127 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS
 TI ISOLATION AND CHARACTERIZATION OF A 36KD **PROTEASE** FROM
 COCCIDIOIDES-**IMMITIS**.

L4 ANSWER 128 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 26
 TI PROTEOLYTIC CLEAVAGE OF IGG AND OTHER PROTEIN SUBSTRATES BY
DIROFILARIA-IMMITIS MICROFILARIAL ENZYMES.

L4 ANSWER 129 OF 240 BIOTECHDS COPYRIGHT 1999 DERWENT INFORMATION LTD
 TI Biochemical and immunologic characterization of a major surface antigen
 of **Dirofilaria immitis** infective larvae;
 application to vaccine production

L4 ANSWER 130 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 27
 TI **PROTEOLYTIC ENZYMES** IN EXTRACTS OF **DIROFILARIA**
-IMMITIS MICROFILARIAE.

L4 ANSWER 131 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 28
 TI DEMONSTRATION OF CARBOXYL AND THIOL **PROTEASE** ACTIVITIES IN ADULT
 SCHISTOSOMA-MANSONI **DIROFILARIA-IMMITIS**
 ANGIOSTRONGYLUS-CANTONENSIS AND ASCARIS-SUUM.

L4 ANSWER 132 OF 240 MEDLINE DUPLICATE 29
 TI Lectin-binding characteristics of Brugia pahangi microfilariae.

L4 ANSWER 133 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 30
 TI STUDIES ON AN ACID **PROTEASE** FROM **DIROFILARIA-**
IMMITIS.

L4 ANSWER 134 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 31
 TI ISOLATION PARTIAL PURIFICATION AND SOME PROPERTIES OF 2 ACID
PROTEASES FROM ADULT **DIROFILARIA-IMMITIS**.

L4 ANSWER 135 OF 240 AGRICOLA

TI Isolation, partial purification and some properties of two acid
proteases from adult *Dirofilaria immitis*.

L4 ANSWER 136 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 32
TI THE ACTIVITY OF ACID **PROTEASES** HYDROLYZING HEMO GLOBIN IN
PARASITIC HELMINTHS WITH SPECIAL REFERENCE TO INTERSPECIFIC AND
INTRASPECIFIC DISTRIBUTION.

L4 ANSWER 137 OF 240 AGRICOLA
TI The activity of acid **proteases** hydrolysing haemoglobin in
parasitic helminths with special reference to interspecific and
intraspecific distribution.

L4 ANSWER 138 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS
TI ALTERATIONS OF PROTHROMBIN TIME AND ACTIVATED PARTIAL THROMBOPLASTIN TIME
IN DOGS WITH HEPATIC DISEASE.

L4 ANSWER 139 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 33
TI EFFECTS OF DIALYZABLE LEUKOCYTE EXTRACTS WITH TRANSFER FACTOR ACTIVITY ON
LEUKOCYTE MIGRATION IN-VITRO ANTIGEN SPECIFIC LYMPHOCYTE RESPONSIVENESS
CAN BE INITIATED BY 2 STRUCTURALLY DISTINCT POLY RIBO NUCLEO PEPTIDES.

L4 ANSWER 140 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 34
TI **DIROFILARIA-IMMITIS** PHYSICOCHEMICAL PROPERTIES OF
IMMUNO GLOBULIN G INDUCING ANTIGEN WITH SPECIAL REFERENCE TO THE
COMPARISON WITH HIGHLY PURIFIED ALLERGEN.

L4 ANSWER 141 OF 240 USPATFULL
TI Assay employing a labeled Fab-fragment ligand complex

L4 ANSWER 142 OF 240 USPATFULL
TI Antienzyme homogeneous competitive binding assay

L4 ANSWER 143 OF 240 USPATFULL
TI Label modified immunoassays

L4 ANSWER 144 OF 240 USPATFULL
TI Process for the preparation of glucoproteins as well as the use thereof

L4 ANSWER 145 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS
TI **PEPTIDASE** ACTIVITY OF COCCIDIOIDES-**IMMITIS**.

L4 ANSWER 146 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 35
TI **PEPTIDASE** ACTIVITY OF COCCIDIOIDES-**IMMITIS**.

L4 ANSWER 147 OF 240 AGRICOLA
TI **Peptidase** activity of Coccidioides **immitis** Fungus.

L4 ANSWER 148 OF 240 SCISEARCH COPYRIGHT 1999 ISI (R)
TI **PEPTIDASE** ACTIVITY OF COCCIDIOIDES-**IMMITIS**

L4 ANSWER 149 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS
TI HISTOCHEMICAL DIFFERENTIATION OF MICROFILARIAE OF DIPETALONEMA
DIROFILARIA ONCHOCERCA AND SETARIA-SPP OF MAN AND DOMESTIC ANIMALS
IN THE ZARIA AREA NIGERIA.

L4 ANSWER 150 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 36
TI SOME PROPERTIES OF HEMO GLOBIN **PROTEASE** FROM
ANCYLOSTOMA-CANINUM.

L4 ANSWER 151 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 37
TI IMMUNOCHEMICAL PROPERTIES OF EXTRACELLULAR HYDROLASES **PROTEASE**
AND ALKALINE PHOSPHATASE OF COCCIDIOIDES-**IMMITIS**.

L4 ANSWER 152 OF 240 SCISEARCH COPYRIGHT 1999 ISI (R)

TI IMMUNOCHEMICAL PROPERTIES OF EXTRACELLULAR HYDROLASES (**PROTEASE**
AND ALKALINE-PHOSPHATASE) OF C-**IMMITIS**

L4 ANSWER 153 OF 240 EMBASE COPYRIGHT 1999 ELSEVIER SCI. B.V.
TI Immunochemical properties of extracellular hydrolases (**protease**
and alkaline phosphatase) of C. **immitis**.

L4 ANSWER 154 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 38
TI A STUDY OF SOME CONDITIONS OF COCCIDIOIDES-**IMMITIS**
PROTEASE FORMATION.

L4 ANSWER 155 OF 240 MEDLINE DUPLICATE 39
TI [Study of the conditions for **protease** formation by Coccidioides
immitis].
Izuchenie nekotorykh uslovii obrazovaniia proteazy Coccidioides
immitis.

L4 ANSWER 156 OF 240 SCISEARCH COPYRIGHT 1999 ISI (R)
TI STUDY OF SOME CONDITIONS OF C-**IMMITIS** **PROTEASE**
FORMATION

L4 ANSWER 157 OF 240 EMBASE COPYRIGHT 1999 ELSEVIER SCI. B.V.
TI Conditions of C. **immitis** **protease** formation.

L4 ANSWER 158 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 40
TI DELAYED HYPER SENSITIVITY TO FUNGAL ANTIGENS IN MICE PART 3
CHARACTERIZATION OF THE ACTIVE COMPONENT IN IMMUNOGENIC RNA EXTRACTS.

L4 ANSWER 159 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Nematode larval **protease** proteins - useful for vaccination, etc

L4 ANSWER 160 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Nematode larval **protease** proteins - useful for vaccination, etc

L4 ANSWER 161 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Nematode larval **protease** proteins - useful for vaccination, etc

L4 ANSWER 162 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Filariid nematode larval nucleic acid - capable of hybridising with
Dirofilaria immitis or Onchocerca volvulus L3 cysteine
protease, to protect against parasitic helminth diseases

L4 ANSWER 163 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Filariid nematode larval nucleic acid - capable of hybridising with
Dirofilaria immitis or Onchocerca volvulus L3 cysteine
protease, to protect against parasitic helminth diseases

L4 ANSWER 164 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Filariid nematode larval nucleic acid - capable of hybridising with
Dirofilaria immitis or Onchocerca volvulus L3 cysteine
protease, to protect against parasitic helminth diseases

L4 ANSWER 165 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Filariid nematode larval nucleic acid - capable of hybridising with
Dirofilaria immitis or Onchocerca volvulus L3 cysteine
protease, to protect against parasitic helminth diseases

L4 ANSWER 166 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Filariid nematode larval nucleic acid - capable of hybridising with
Dirofilaria immitis or Onchocerca volvulus L3 cysteine
protease, to protect against parasitic helminth diseases

L4 ANSWER 167 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI **Dirofilaria immitis**, putative pepsin inhibitor family
protein DiT33 - useful for diagnosis of heartworm disease

L4 ANSWER 168 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI **Dirofilaria immitis astacin** metallo:endo:
peptidase and cysteine protease genes and proteins -
useful for protecting animals from parasitic-based diseases by
inhibiting
parasite larval development

L4 ANSWER 169 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI **Dirofilaria immitis astacin** metallo:endo:
peptidase and cysteine protease genes and proteins -
useful for protecting animals from parasitic-based diseases by
inhibiting
parasite larval development

L4 ANSWER 170 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI **Dirofilaria immitis astacin** metallo:endo:
peptidase and cysteine protease genes and proteins -
useful for protecting animals from parasitic-based diseases by
inhibiting
parasite larval development

L4 ANSWER 171 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI **Dirofilaria immitis astacin** metallo:endo:
peptidase and cysteine protease genes and proteins -
useful for protecting animals from parasitic-based diseases by
inhibiting
parasite larval development

L4 ANSWER 172 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI **Dirofilaria immitis astacin** metallo:endo:
peptidase and cysteine protease genes and proteins -
useful for protecting animals from parasitic-based diseases by
inhibiting
parasite larval development

L4 ANSWER 173 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI **Dirofilaria immitis astacin** metallo:endo:
peptidase and cysteine protease genes and proteins -
useful for protecting animals from parasitic-based diseases by
inhibiting
parasite larval development

L4 ANSWER 174 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI **Dirofilaria immitis astacin** metallo:endo:
peptidase and cysteine protease genes and proteins -
useful for protecting animals from parasitic-based diseases by
inhibiting
parasite larval development

L4 ANSWER 175 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI **Dirofilaria immitis astacin** metallo:endo:
peptidase and cysteine protease genes and proteins -
useful for protecting animals from parasitic-based diseases by
inhibiting
parasite larval development

L4 ANSWER 176 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI **Dirofilaria immitis astacin** metallo:endo:
peptidase and cysteine protease genes and proteins -
useful for protecting animals from parasitic-based diseases by
inhibiting
parasite larval development

L4 ANSWER 177 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD

TI **Dirofilaria immitis** astacin metallo:endo:
peptidase and cysteine **protease** genes and proteins -
useful for protecting animals from parasitic-based diseases by
inhibiting
parasite larval development

L4 ANSWER 178 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Nematode larval **protease** proteins - useful for vaccination, etc

L4 ANSWER 179 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Nematode larval **protease** proteins - useful for vaccination, etc

L4 ANSWER 180 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Nematode larval **protease** proteins - useful for vaccination, etc

L4 ANSWER 181 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Nematode larval **protease** proteins - useful for vaccination, etc

L4 ANSWER 182 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Nematode larval **protease** proteins - useful for vaccination, etc

L4 ANSWER 183 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Nematode larval **protease** proteins - useful for vaccination, etc

L4 ANSWER 184 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Nematode larval **protease** proteins - useful for vaccination, etc

L4 ANSWER 185 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Nematode larval **protease** proteins - useful for vaccination, etc

L4 ANSWER 186 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Recombinant swine pox virus - useful in vaccine for immunising animal
against swine pox virus

L4 ANSWER 187 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Recombinant swine pox virus - useful in vaccine for immunising animal
against swine pox virus

L4 ANSWER 188 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Recombinant swine pox virus - useful in vaccine for immunising animal
against swine pox virus

L4 ANSWER 189 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Recombinant swine pox virus - useful in vaccine for immunising animal
against swine pox virus

L4 ANSWER 190 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Filariid nematode larval nucleic acid - capable of hybridising with
Dirofilaria immitis or *Onchocerca volvulus* L3 cysteine
protease, to protect against parasitic helminth diseases

L4 ANSWER 191 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Filariid nematode larval nucleic acid - capable of hybridising with
Dirofilaria immitis or *Onchocerca volvulus* L3 cysteine
protease, to protect against parasitic helminth diseases

L4 ANSWER 192 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Filariid nematode larval nucleic acid - capable of hybridising with
Dirofilaria immitis or *Onchocerca volvulus* L3 cysteine
protease, to protect against parasitic helminth diseases

L4 ANSWER 193 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Filariid nematode larval nucleic acid - capable of hybridising with
Dirofilaria immitis or *Onchocerca volvulus* L3 cysteine
protease, to protect against parasitic helminth diseases

[illegible]

L4 ANSWER 207 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
 TI Filariid nematode larval nucleic acid - capable of hybridising with
Dirofilaria immitis or *Onchocerca volvulus* L3 cysteine
protease, to protect against parasitic helminth diseases

L4 ANSWER 208 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
 TI Filariid nematode larval nucleic acid - capable of hybridising with
Dirofilaria immitis or *Onchocerca volvulus* L3 cysteine
protease, to protect against parasitic helminth diseases

L4 ANSWER 209 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
 TI Filariid nematode larval nucleic acid - capable of hybridising with
Dirofilaria immitis or *Onchocerca volvulus* L3 cysteine
protease, to protect against parasitic helminth diseases

L4 ANSWER 210 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
 TI Filariid nematode larval nucleic acid - capable of hybridising with
Dirofilaria immitis or *Onchocerca volvulus* L3 cysteine
protease, to protect against parasitic helminth diseases

L4 ANSWER 211 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
 TI Filariid nematode larval nucleic acid - capable of hybridising with
Dirofilaria immitis or *Onchocerca volvulus* L3 cysteine
protease, to protect against parasitic helminth diseases

L4 ANSWER 212 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
 TI **Dirofilaria immitis**, putative pepsin inhibitor family
 protein DiT33 - useful for diagnosis of heartworm disease

L4 ANSWER 213 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
 TI **Dirofilaria immitis**, putative pepsin inhibitor family
 protein DiT33 - useful for diagnosis of heartworm disease

L4 ANSWER 214 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
 TI **Dirofilaria immitis**, putative pepsin inhibitor family
 protein DiT33 - useful for diagnosis of heartworm disease

L4 ANSWER 215 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
 TI **Dirofilaria immitis astacin** metallo:endo:
peptidase and cysteine **protease** genes and proteins -
 useful for protecting animals from parasitic-based diseases by
 inhibiting
 parasite larval development

L4 ANSWER 216 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
 TI **Dirofilaria immitis astacin** metallo:endo:
peptidase and cysteine **protease** genes and proteins -
 useful for protecting animals from parasitic-based diseases by
 inhibiting
 parasite larval development

L4 ANSWER 217 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
 TI **Dirofilaria immitis astacin** metallo:endo:
peptidase and cysteine **protease** genes and proteins -
 useful for protecting animals from parasitic-based diseases by
 inhibiting
 parasite larval development

L4 ANSWER 218 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
 TI **Dirofilaria immitis astacin** metallo:endo:
peptidase and cysteine **protease** genes and proteins -
 useful for protecting animals from parasitic-based diseases by
 inhibiting
 parasite larval development

L4 ANSWER 219 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
 TI **Dirofilaria immitis astacin** metallo:endo:
peptidase and cysteine **protease** genes and proteins -
 useful for protecting animals from parasitic-based diseases by
 inhibiting
 parasite larval development

L4 ANSWER 220 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
 TI **Dirofilaria immitis astacin** metallo:endo:
peptidase and cysteine **protease** genes and proteins -
 useful for protecting animals from parasitic-based diseases by
 inhibiting
 parasite larval development

L4 ANSWER 221 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
 TI **Dirofilaria immitis astacin** metallo:endo:
peptidase and cysteine **protease** genes and proteins -
 useful for protecting animals from parasitic-based diseases by
 inhibiting
 parasite larval development

L4 ANSWER 222 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
 TI **Dirofilaria immitis astacin** metallo:endo:
peptidase and cysteine **protease** genes and proteins -
 useful for protecting animals from parasitic-based diseases by
 inhibiting
 parasite larval development

L4 ANSWER 223 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
 TI **Dirofilaria immitis astacin** metallo:endo:
peptidase and cysteine **protease** genes and proteins -
 useful for protecting animals from parasitic-based diseases by
 inhibiting
 parasite larval development

L4 ANSWER 224 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
 TI Thiol **proteases** with Cathepsin L-type activity - useful in
 vaccine formulations against helminth parasites

L4 ANSWER 225 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
 TI Thiol **proteases** with Cathepsin L-type activity - useful in
 vaccine formulations against helminth parasites

L4 ANSWER 226 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
 TI Thiol **proteases** with Cathepsin L-type activity - useful in
 vaccine formulations against helminth parasites

L4 ANSWER 227 OF 240 GENBANK.RTM. COPYRIGHT 1999
 TITLE (TI): **Dirofilaria** and onchocerca larval L3 cysteine
protease proteins and uses thereof

L4 ANSWER 228 OF 240 GENBANK.RTM. COPYRIGHT 1999
 TITLE (TI): **Dirofilaria** and onchocerca larval L3 cysteine
protease proteins and uses thereof

L4 ANSWER 229 OF 240 GENBANK.RTM. COPYRIGHT 1999
 TITLE (TI): **Dirofilaria** and onchocerca larval L3 cysteine
protease proteins and uses thereof

L4 ANSWER 230 OF 240 GENBANK.RTM. COPYRIGHT 1999

TITLE (TI): **Dirofilaria** and onchocerca larval L3 cysteine
 protease proteins and uses thereof

L4 ANSWER 231 OF 240 GENBANK.RTM. COPYRIGHT 1999

TITLE (TI): **Dirofilaria** and onchocerca larval L3 cysteine
 protease proteins and uses thereof

L4 ANSWER 232 OF 240 GENBANK.RTM. COPYRIGHT 1999

TITLE (TI): **Dirofilaria** and onchocerca larval L3 cysteine
 protease proteins and uses thereof

L4 ANSWER 233 OF 240 GENBANK.RTM. COPYRIGHT 1999

TITLE (TI): **Dirofilaria** and onchocerca larval L3 cysteine
 protease proteins and uses thereof

L4 ANSWER 234 OF 240 GENBANK.RTM. COPYRIGHT 1999

TITLE (TI): **Dirofilaria** and onchocerca larval L3 cysteine
 protease proteins and uses thereof

L4 ANSWER 235 OF 240 GENBANK.RTM. COPYRIGHT 1999

TITLE (TI): A **Dirofilaria immitis** larval cDNA
 clone with homology to cysteine **proteases**

TITLE (TI): Direct Submission

L4 ANSWER 236 OF 240 GENBANK.RTM. COPYRIGHT 1999

TITLE (TI): Carboxy-terminal sequence divergence and processing of
 the polyprotein antigen from **Dirofilaria**
 immitis

TITLE (TI): Direct Submission

L4 ANSWER 237 OF 240 GENBANK.RTM. COPYRIGHT 1999

TITLE (TI): Cloning and expression of DiT33 from
 Dirofilaria immitis: a specific and
 early marker of heartworm infection

TITLE (TI): Direct Submission

L4 ANSWER 238 OF 240 GENBANK.RTM. COPYRIGHT 1999

TITLE (TI): Molecular cloning of a **Dirofilaria**
 immitis aspartyl **protease** inhibitor
 homologue

TITLE (TI): Direct Submission

L4 ANSWER 239 OF 240 GENBANK.RTM. COPYRIGHT 1999

TITLE (TI): Direct Submission

TITLE (TI): Molecular cloning and characterization of a novel
 neutrophil chemotactic factor from a filarial parasite

L4 ANSWER 240 OF 240 GENBANK.RTM. COPYRIGHT 1999

TITLE (TI): Isolation and expression of a gene which encodes a
 wall-associated proteinase of **Coccidioides**
 immitis

=> d his

(FILE 'HOME' ENTERED AT 12:31:32 ON 01 MAR 1999)

INDEX 'ADISALERTS, ADISINSIGHT, AGRICOLA, AIDSLINE, ANABSTR, AQUASCI,
BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHABS, BIOTECHDS, CABA,
CANCERLIT,
CAPLUS, CEABA, CEN, CIN, CONFSCI, CROPB, CROPU, DDFB, DDFU, DGENE,
DRUGB,
DRUGLAUNCH, DRUGMONOG2, DRUGNL, ...' ENTERED AT 12:31:41 ON 01 MAR 1999
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PEPTID

10 FILE AGRICOLA
33 FILE BIOSIS
6 FILE BIOTECHABS
6 FILE BIOTECHDS
22 FILE CABA
31 FILE CAPLUS
1 FILE CEABA
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2 FILE DPCI
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1 FILE INPADOC
1 FILE PATDPA
2 FILE PATOSEP
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PEPTID

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EMBASE,
GENBANK, AGRICOLA, BIOTECHDS, IFIPAT, LIFESCI, PROMT, TOXLIT, WPIDS,
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L2 357 S L1
L3 357 S (DIROFILAR? OR IMMIT?) AND (ASTACIN? OR PROTEASE? OR
PEPTIDAS
L4 240 DUP REM L3 (117 DUPLICATES REMOVED)

=> d bib ab 14 3, 6, 14, 18, 19, 26, 36, 45, 47, 48, 49, 50, 52, 63, 65, 82,
86, 87, 89, 95, 97-98, 103, 128, 130, 145-148, 159-161, 168, 178, 216

L4 ANSWER 3 OF 240 USPATFULL
AN 1999:21726 USPATFULL
TI Nematode vaccine
IN Sharp, Phillip John, Glebe, Australia
Wagland, Barry Maxwell, Carlingford, Australia
PA Biotech Australia Pty. Limited, Roseville, Australia (non-U.S.)

corporation)
Commonwealth Scientific and Industrial Research Organization, Campbell,
Australia (non-U.S. corporation)
PI US 5871738 19990216
WO 9213890 19920820
AI US 92-930685 19921006 (7)
WO 92-AU41 19920206
19921006 PCT 371 date
19921006 PCT 102(e) date
PRAI AU 91-4487 19910206
DT Utility
EXNAM Primary Examiner: Hutzell, Paula K.; Assistant Examiner: Masood, Khalid
LREP Foley & Lardner
CLMN Number of Claims: 13
ECL Exemplary Claim: 1
DRWN 1 Drawing Figure(s); 1 Drawing Page(s)
LN.CNT 1328
AB Disclosed is a substantially purified antigen derived from a first
parasitic nematode species which, when administered to a host animal,
is
capable of protecting the host animal from infestation by a second
parasitic nematode species, wherein the first and second parasitic
nematode species may be the same or different, and the antigen has an
apparent molecular weight of 40 kD as determined by SDS-PAGE under
reducing conditions.

L4 ANSWER 6 OF 240 USPATFULL
AN 1999:12787 USPATFULL
TI Control of parasites
IN Atkinson, Howard John, Leeds, Great Britain
Koritsas, Vas Michael, Leeds, Great Britain
Lee, Donald Lewis, Leeds, Great Britain
MacGregor, Andrew Neilson, Canterbury, Great Britain
Smith, Judith Elizabeth, Leeds, Great Britain
PA The University of Leeds, Leeds, England (non-U.S. corporation)
PI US 5863775 19990126
WO 9523229 19950831
AI US 96-702682 19961220 (8)
WO 95-GB419 19950228
19961220 PCT 371 date
19961220 PCT 102(e) date
PRAI GB 94-3819 19940228
DT Utility
EXNAM Primary Examiner: Degen, Nancy
LREP Barrett, William A.; Hultquist, Steven J.
CLMN Number of Claims: 26
ECL Exemplary Claim: 1
DRWN 11 Drawing Figure(s); 11 Drawing Page(s)
LN.CNT 1905

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention relates to a method of combating an animal parasite in a
host which comprises delivering an anti-parasitic protein to the
parasite or to a locus thereof by administering the protein to the host
animal as a medicament or as a food. The anti-parasitic protein may be
an inhibitor of an enzyme of the parasite, for example an inhibitor of
a
digestive enzyme such as a cysteine **protease** inhibitor. The
parasite may be a helminth or a protozoan, for example, a nematode.
According to one embodiment the anti-parasitic protein is expressed in
a
transgenic plant which may be a dietary crop for the host animal.

L4 ANSWER 14 OF 240 USPATFULL
AN 1998:39560 USPATFULL
TI Inhibitors of metazoan parasite **proteases**

DUPLICATE 4

IN Cohen, Fred E., San Francisco, CA, United States
McKerrow, James H., San Francisco, CA, United States
Kenyon, George L., San Francisco, CA, United States
Li, Zhe, Malden, MA, United States
Chen, Xiaowu, San Francisco, CA, United States
Gong, Baoqing, San Francisco, CA, United States
Li, Rongshi, San Diego, CA, United States
PA The Regents of the University of California, Oakland, CA, United States
(U.S. corporation)
PI US 5739170 19980414
AI US 95-413337 19950330 (8)
RLI Continuation-in-part of Ser. No. US 95-387760, filed on 28 Mar 1995,
now patented, Pat. No. US 5610192 which is a continuation-in-part of Ser.
No. US 92-943925, filed on 11 Sep 1992, now abandoned
PRAI WO 93-US8708 19930911
DT Utility
EXNAM Primary Examiner: Spivack, Phyllis G.
LREP Townsend and Townsend and Crew LLP
CLMN Number of Claims: 9
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 755

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Compositions and methods are disclosed for treating a patient infected
with a metazoan parasite by inhibiting the enzymatic action of the
metazoan parasite **protease**, wherein there is employed at least
one compound of formula I

A--X--B

wherein A is a substituted or unsubstituted homoaromatic ring system
comprising one to three rings which bind to at least one of the S2, S1
and S1' subsites; B is a substituted or unsubstituted homoaromatic ring
system comprising one to three rings which bind to at least one of the
S1', S1 and S2 subsites; and X is --C.dbd.C--C(.dbd.O)--. These
compositions and methods have particular utility in the treatment of
schistosomiasis, malaria, and other infectious diseases.

L4 ANSWER 18 OF 240 USPATFULL

AN 1998:150726 USPATFULL

TI Vaccines against animal parasitic nematodes

IN Cobon, Gary Stewart, Frenchs Forest, Australia
Austen, Rosemary Ann, East Gosford, Australia
O'Donnell, Ian Joseph, Gardenvale, Australia
Frenkel, Maurice Joseph, South Caulfield, Australia
Kennedy, William Peter Keith, Willoughby, Australia
Savin, Keith William, Caulfield South, Australia
Wagland, Barry Maxwell, Carlingford, Australia

PA Biotech Australia Pty. Limited and Csiro, Australia (non-U.S.
corporation)

PI US 5843710 19981201

AI US 95-482547 19950607 (8)

RLI Division of Ser. No. US 89-353658, filed on 2 May 1989

PRAI AU 87-2940 19870707

NZ 88-225295 19880507

CA 88-571319 19880607

DT Utility

EXNAM Primary Examiner: Hutzell, Paula K.; Assistant Examiner: Masood, Khalid

LREP Foley & Lardner

CLMN Number of Claims: 17

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 2730

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Disclosed is the invention relates to proteins derived from parasitic nematodes which confer protective immunity against infection by parasitic nematodes, to nucleotide sequences encoding these proteins, to recombina nt molecules containing such sequences to host cells transformed with such recombinant molecules and methods for the production of the nucleotide sequences recombinant molecules and hosts. The invention also relates to vaccines comprising proteins of the invention together with suitable carriers or diluents and to antibodies raised against proteins of the invention.

L4 ANSWER 19 OF 240 USPATFULL

AN 1998:150722 USPATFULL

TI Vaccines against animal parasitic nematodes

IN Cobon, Gary Stewart, Frenchs Forest, Australia

Austen, Rosemary Ann, East Gosford, Australia

O'Donnell, Ian Joseph, Gardenvale, Australia

Frenkel, Maurice Joseph, South Caulfield, Australia

Kennedy, William Peter Keith, Willoughby, Australia

Savin, Keith William, Caulfield South, Australia

Wagland, Barry Maxwell, Carlingford, Australia

PA Biotechnology Australia Pty, Ltd., Roseville, Australia (non-U.S. corporation)

Commonwealth Scientific and Industrial Organization, Campbell, Australia

(non-U.S. government)

PI US 5843706 19981201

AI US 95-483812 19950607 (8)

RLI Continuation of Ser. No. US 89-353658, filed on 2 May 1989, now abandoned

PRAI AU 87-294 19870707

NZ 88-225295 19880705

CA 88-571319 19880706

DT Utility

EXNAM Primary Examiner: Hutzell, Paula K.; Assistant Examiner: Masood, Khalid

LREP Foley & Lardner

CLMN Number of Claims: 26

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 1357

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention disclosed relates to proteins derived from parasitic nematodes that confer protective immunity against infection by

parasitic nematodes, to nucleotide sequences encoding those proteins, to recombina nt molecules containing such sequences, to host cells transformed with such recombinant molecules and methods for the production of the nucleotide sequences, recombinant molecules and hosts.

The invention also relates to vaccines comprising proteins of the invention together with suitable carriers or diluents and to antibodies raised against proteins of the invention.

L4 ANSWER 26 OF 240 USPATFULL

AN 1998:108039 USPATFULL

TI Parasitic nematode proteins and vaccines

IN Grieve, Robert B., La Porte, CO, United States

Frank, Glenn R., Fort Collins, CO, United States

PA Colorado State University Research Foundation, Ft. Collins, CO, United States (U.S. corporation)

Heska Corporation, Ft. Collins, CO, United States (U.S. corporation)

PI US 5804200 19980908

AI US 95-408120 19950320 (8)

RLI Continuation of Ser. No. US 93-3257, filed on 12 Jan 1993, now abandoned

which is a continuation-in-part of Ser. No. US 91-654226, filed on 12 Feb 1991, now abandoned

DT Utility
EXNAM Primary Examiner: Sidberry, Hazel F.
LREP Sheridan Ross P.C.
CLMN Number of Claims: 1
ECL Exemplary Claim: 1
DRWN 71 Drawing Figure(s); 36 Drawing Page(s)
LN.CNT 2303

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Immunogens derived from proteins isolatable from the L3 and L4 larval stages of nematodes parasitic in mammals, and including a protein of about 20.5 kD, are disclosed. The proteins of the invention are identified using biological materials verified to destroy or impair the parasitic nematode in an in vivo incubator. Cells, serum or fractions thereof obtained from immune natural hosts are validated in a method wherein a recoverable implant of the parasitic nematodes is used to assess the protective effect when these materials are provided passively to the animal incubator.

L4 ANSWER 36 OF 240 USPATFULL
AN 1998:34051 USPATFULL
TI Nematode vaccine
IN Sharp, Phillip John, Glebe, Australia
Wagland, Barry Maxwell, Carlingford, Australia
PA Biotech Australia Pty Limited, Roseville, Australia (non-U.S. corporation)
Commonwealth Scientific and Industrial Research Organisation, Campbell, Australia (non-U.S. corporation)
PI US 5734035 19980331
AI US 95-461005 19950605 (8)
RLI Division of Ser. No. US 92-930685, filed on 6 Oct 1992
PRAI AU 91-4487 19910206
DT Utility
EXNAM Primary Examiner: Hutzell, Paula K.; Assistant Examiner: Masood, Khalid
LREP Foley & Lardner
CLMN Number of Claims: 18
ECL Exemplary Claim: 1
DRWN 1 Drawing Figure(s); 1 Drawing Page(s)
LN.CNT 1344

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Disclosed is a substantially purified antigen derived from a first parasitic nematode species which, when administered to a host animal, is capable of protecting the host animal from infestation by a second parasitic nematode species, wherein the first and second parasitic nematode species may be the same or different, and the antigen has an apparent molecular weight of 40 kD as determined by SDS-PAGE under reducing conditions.

L4 ANSWER 45 OF 240 SCISEARCH COPYRIGHT 1999 ISI (R)
AN 1998:625011 SCISEARCH
GA The Genuine Article (R) Number: 109PG
TI Effect of **protease** class-specific inhibitors on in vitro development of the third- to fourth-stage larvae of *Ascaris suum*
AU Rhoads M L (Reprint); Fetterer R H; Urban J F
CS USDA ARS, INST LIVESTOCK & POULTRY SCI, PARASITE BIOL & EPIDEMIOLOG LAB, BELTSVILLE, MD 20705 (Reprint)
CYA USA
SO JOURNAL OF PARASITOLOGY, (AUG 1998) Vol. 84, No. 4, pp. 686-690.
Publisher: AMER SOC PARASITOLOGISTS, 810 EAST 10TH STREET, LAWRENCE, KS 66044.
ISSN: 0022-3395.
DT Article; Journal

FS LIFE; AGRI

LA English

REC Reference Count: 21

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Third-stage larvae (L3) of *Ascaris suum* develop and molt to fourth-stage larvae (L4) during in vitro cultivation; consistently greater

than 80% of the larvae develop to L4 during 7 days in culture (DIC). To assess the role of **proteases** in this process, the effect of **protease** class-specific inhibitors was studied. The presence of either a serine **protease** inhibitor (AEBSF, 100 μ M) or an aspartic **protease** inhibitor (pepstatin A, 100 μ M) had no effect on the percentage of L4 after 7 DIG. However, the presence of either a cysteine **protease** inhibitor (Z-Phe-Ala-FMK, 100 μ M) or an aminopeptidase inhibitor (amastatin, 100 μ M) resulted in 77% and 34% reductions, respectively, in the percentage of L4 compared to untreated cultures; viability of the larvae was not affected. The effect of Z-Phe-Ala-FMK on molting was time and dose dependent. In contrast to Z-Phe-Ala-FMK, E-64, another specific inhibitor of cysteine **proteases**, had no effect on molting. The data support a role for an amino-peptidase and suggest a role for a cysteine **protease** in the development of the L3 to L4 stage of *A. suum*.

L4 ANSWER 47 OF 240 PROMT COPYRIGHT 1999 IAC

AN 1998:500900 PROMT

TI Heska granted six patents for novel vaccine delivery system, flea allergens and heartworm antigens

SO BIOTECH Patent News, (1 Sep 1998) pp. N/A.
ISSN: 0898-2813.

LA English

WC 844

FULL TEXT IS AVAILABLE IN THE ALL FORMAT

AB Heska Corporation (Ft. Collins, CO; 970-493-7272) announced the recent issuance of six patents by the United States Patent and Trademark Office: one for a novel vaccine delivery system, one for novel flea allergens and four covering novel heartworm antigens.

"The vaccine delivery system patent is the second in Heska's portfolio of patents covering the use of a recombinant canine herpes virus to deliver genes to animals in a safe and effective manner," said Dr. Robert Grieve, Heska's chief scientific officer. "The patent covering novel allergens that cause flea bite allergy in animals is the second United States patent

to issue in that portfolio and is relevant to our ongoing efforts of producing flea bite allergy diagnostics, immunotherapeutics and vaccines. In addition, four that cover heartworm antigens are members of Heska's portfolio of proprietary heartworm genes and proteins that may be used in heartworm vaccines currently in development."

The novel delivery system, based on canine herpes virus, is advantageous for the delivery of genes to animals. Canine herpes virus, unlike most herpesviruses, does not cause disease except in very young puppies and is thought to be a safe vehicle for delivery of genes to dogs. In addition, canine herpes virus-based recombinant vaccines allow for the delivery of multiple antigen-encoding genes at one time.

United States Patent 5,804,197, entitled "Recombinant Canine Herpesviruses," issued on September 8, 1998. The patent claims a number

of canine herpesvirus genes, in addition to those claimed in United States Patent 5,753,235, which issued earlier this year. Also claimed are recombinant canine herpesvirus vectors and genomes, as well as their use to deliver other genes to a dog. These genes can be expressed as proteins to protect an animal from disease or to otherwise benefit the health of

an animal.

THIS IS AN EXCERPT: COPYRIGHT 1998 BIOTECH Patent News

L4 ANSWER 48 OF 240 PROMT COPYRIGHT 1999 IAC

AN 1998:476412 PROMT

TI Heska Granted Six Patents for Novel Vaccine Delivery System, Flea Allergens and Heartworm Antigens

SO PR Newswire, (15 Sep 1998) pp. 0915LATU085.

LA English

WC 1192

FULL TEXT IS AVAILABLE IN THE ALL FORMAT

AB FORT COLLINS, Colo., Sept. 15 /PRNewswire/ -- Heska Corporation (Nasdaq: HSKA) announced today the recent issuance of six patents by the U.S.

Patent and Trademark Office: one for a novel vaccine delivery system, one for novel flea allergens and four covering novel heartworm antigens.

"The vaccine delivery system patent is the second in Heska's portfolio of patents covering the use of a recombinant canine herpesvirus (CHV) to deliver genes to animals in a safe and effective manner," said Dr. Robert Grieve, Heska's chief scientific officer. "The patent covering novel allergens that cause flea bite allergy in animals is the second US patent to issue in that portfolio and is relevant to our ongoing efforts of producing flea bite allergy diagnostics, immunotherapeutics and vaccines. In addition, four that cover heartworm antigens are members of Heska's portfolio of proprietary heartworm genes and proteins that may be used in heartworm vaccines currently in development."

The novel delivery system, based on CHV, is advantageous for the delivery of genes to animals. CHV, unlike most herpesviruses, does not cause disease except in very young puppies and is thought to be a safe vehicle for delivery of genes to dogs. In addition, CHV-based recombinant vaccines allow for the delivery of multiple antigen-encoding genes at one time.

U.S. Patent No. 5,804,197, entitled "Recombinant Canine Herpesviruses," issued on September 8, 1998. The patent claims a number of canine herpesvirus genes, in addition to those claimed in U.S. Patent No. 5,753,235, which issued earlier this year. Also claimed are recombinant canine herpesvirus vectors and genomes, as well as their use to deliver other genes to a dog. These genes can be expressed as proteins to

protect

an animal from disease or to otherwise benefit the health of an animal.

THIS IS AN EXCERPT: COPYRIGHT 1998 PR Newswire Association, Inc.

L4 ANSWER 49 OF 240 PROMT COPYRIGHT 1999 IAC

AN 1998:302494 PROMT

TI Heska Granted Six Patents for Novel Vaccine Delivery Systems, Flea Control

and Heartworm Antigens

SO PR Newswire, (22 Jun 1998) pp. 0622LAM082.

LA English

WC 1303

FULL TEXT IS AVAILABLE IN THE ALL FORMAT

AB FORT COLLINS, Colo., June 22 /PRNewswire/ -- Heska Corporation (Nasdaq: HSKA) announced today the recent issuance of six patents by the U.S.

Patent and Trademark Office: two for novel vaccine delivery systems, two for novel flea control targets and two patents covering antigens

important

in heartworm disease.

"The vaccine delivery system patents represent technological tools for developing new companion animal vaccines," said Dr. Robert Grieve,

Heska's

chief scientific officer. "These systems are designed to use either a recombinant canine herpesvirus (CHV) or a Sindbis virus to deliver genes to animals in a safe and effective manner. In addition, two patents

cover

heartworm antigens that are members of Heska's portfolio of proprietary heartworm genes and proteins. We believe that our heartworm vaccines may

require more than one antigen to accomplish the most desirable efficacy. These new patents add to the potential for creating multiple antigen vaccines. Flea control has been an area where we have devoted a great

deal

of research effort. The patents issued in this area are relevant to our goals of developing flea control vaccines and pharmaceuticals." The two novel delivery systems, based on CHV and Sindbis virus respectively, are advantageous for the delivery of genes to animals.

CHV,

unlike most herpesviruses, does not cause disease except in very young puppies and is thought to be a safe vehicle for gene delivery. In addition, CHV-based recombinant vaccines allow for the delivery of multiple antigen-encoding genes at one time. Sindbis virus, which is not associated with disease in companion animals, can deliver genes to a wide variety of animals. In addition, Heska's novel technology is designed to optimize the safety of a Sindbis-based delivery system in that infectious Sindbis virus are not produced in the treated animal.

THIS IS AN EXCERPT: COPYRIGHT 1998 PR Newswire Association, Inc.

L4 ANSWER 50 OF 240 PROMT COPYRIGHT 1999 IAC

AN 1998:321268 PROMT

TI Heska granted six patents for vaccine delivery systems, flea Control and heartworm antigens

Received patents for vaccines for flea and heartworm control

SO BIOTECH Patent News, (1 Jun 1998) pp. N/A.

ISSN: 0898-2813.

LA English

WC 943

FULL TEXT IS AVAILABLE IN THE ALL FORMAT

AB Heska Corporation (Fort Collins, CO; 970-493-7272) announced the recent issuance of six patents by the United States Patent and Trademark Office: two for novel vaccine delivery systems, two for novel flea control

targets

and two patents covering antigens important in heartworm disease. "The vaccine delivery system patents represent technological tools for developing new companion animal vaccines," said Dr. Robert Grieve,

Heska's

chief scientific officer. "These systems are designed to use either a recombinant canine herpesvirus or a Sindbis virus to deliver genes to animals in a safe and effective manner. In addition, two patents cover heartworm antigens that are members of Heska's portfolio of proprietary heartworm genes and proteins. We believe that our heartworm vaccines may require more than one antigen to accomplish the most desirable efficacy. These new patents add to the potential for creating multiple antigen vaccines. Flea control has been an area where we have devoted a great

deal

of research effort. The patents issued in this area are relevant to our goals of developing flea control vaccines and pharmaceuticals." The two novel delivery systems, based on canine herpesvirus and Sindbis virus respectively, are advantageous for the delivery of genes to animals. canine herpesvirus, unlike most herpesviruses, does not cause disease except in very young puppies and is thought to be a safe vehicle for gene delivery. In addition, canine herpesvirus -based recombinant vaccines allow for the delivery of multiple antigen-encoding genes at one time. Sindbis virus, which is not associated with disease in companion animals, can deliver genes to a wide variety of animals. In addition, Heska's

novel

technology is designed to optimize the safety of a Sindbis-based delivery system in that infectious Sindbis virus are not produced in the treated animal. United States Patent 5,753,235, entitled "Recombinant Canine Herpesviruses", issued on May 19, 1998. The patent claims a number of canine herpesvirus genes. Also claimed are recombinant canine herpesvirus vectors and genomes that carry other genes, such as antigen-encoding genes, as well as use of such vectors and genomes to deliver genes to a

dog. United States Patent 5,766,602, entitled "Recombinant Packaging-Defective Sindbis Virus Vaccines", issued on June 16, 1998. The patent claims a method for delivering genes to an animal using a packaging-defective Sindbis virus particle.

THIS IS AN EXCERPT: COPYRIGHT 1998 BIOTECH Patent News

L4 ANSWER 52 OF 240 USPATFULL DUPLICATE 7
AN 97:20561 USPATFULL
TI Inhibitors of metazoan parasite **proteases**
IN Cohen, Fred E., San Francisco, CA, United States
McKerrow, James H., San Francisco, CA, United States
Ring, Christine S., San Francisco, CA, United States
Rosenthal, Philip J., Nicasio, CA, United States
Kenyon, George L., San Francisco, CA, United States
Li, Zhe, San Francisco, CA, United States
PA The Regents of the University of California, Oakland, CA, United States
(U.S. corporation)
PI US 5610192 19970311
WO 9406280 19940331
AI US 95-387760 19950328 (8)
WO 93-US8708 19930913
19950328 PCT 371 date
19950328 PCT 102(e) date
RLI Continuation-in-part of Ser. No. US 92-943925, filed on 11 Sep 1992,
now abandoned
DT Utility
EXNAM Primary Examiner: Spivack, Phyllis G.
LREP Robbins, Berliner & Carson, LLP
CLMN Number of Claims: 18
ECL Exemplary Claim: 1
DRWN 4 Drawing Figure(s); 2 Drawing Page(s)
LN.CNT 1066
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Compositions and methods for treating a patient infected with a
metazoan
parasite by inhibiting the enzymatic action of the metazoan parasite
protease. The compositions comprise at least one metazoan
protease inhibitor which binds to the S2 subsite and at least
one of the S1 and S1' subsites of the metazoan parasite **protease**
. The methods comprise administration to a patient infected with a
metazoan parasite of at least one metazoan **protease** inhibitor
in an amount effective to inhibit the **protease** of the metazoan
parasite, thereby killing the parasite.

L4 ANSWER 63 OF 240 USPATFULL
AN 97:56524 USPATFULL
TI Production and purification of a protein fused to a binding protein
IN Guan, Chudi, Wenham, MA, United States
Inouye, deceased,, Hiroshi, late of Philadelphia, PA, United States
Chang, administrator, Frank N., Dresher, PA, United States
PA New England Biolabs, Inc., Beverly, MA, United States (U.S.
corporation)
Temple University, Philadelphia, PA, United States (U.S. corporation)
PI US 5643758 19970701
AI US 95-374145 19950112 (8)
RLI Continuation of Ser. No. US 93-19981, filed on 17 Feb 1993 which is a
continuation of Ser. No. US 91-737596, filed on 25 Jul 1991, now
abandoned which is a continuation of Ser. No. US 88-196988, filed on 20
May 1988, now abandoned which is a continuation-in-part of Ser. No. US
87-24053, filed on 10 Mar 1987, now abandoned
DT Utility
EXNAM Primary Examiner: Guzo, David; Assistant Examiner: Schwartzman, Robert
LREP Williams, Gregory D.; Corless, Peter F.
CLMN Number of Claims: 24

ECL Exemplary Claim: 1
DRWN 14 Drawing Figure(s); 11 Drawing Page(s)
LN.CNT 1313

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Methods and products are provided for producing and/or purifying virtually any hybrid polypeptide molecule employing recombinant DNA techniques. More specifically, a DNA fragment coding for a protein molecule, e.g. a polypeptide or portion thereof, is fused to a DNA fragment coding for a binding protein, such as the gene coding for the maltose binding protein. The fused DNA is inserted into a cloning vector and an appropriate host transformed. Upon expression, a hybrid polypeptide is produced which can be purified by contacting the hybrid polypeptide with a ligand or substrate to which the binding protein has specific affinity, e.g. by affinity chromatography. The hybrid polypeptide so purified may in certain instances be useful in its form, or it may be cleaved to obtain the protein molecule itself by, for example, linking the DNA fragments coding for the target and binding proteins with a DNA segment which codes for a peptide which is recognized and cut by a **proteolytic enzyme**, such as Factor Xa. The present invention also relates to certain vectors useful in practicing the above process.

L4 ANSWER 65 OF 240 USPATFULL

AN 97:52122 USPATFULL

TI Nucleic acid molecules encoding novel parasitic helminth proteins

IN Tripp, Cynthia Ann, Ft. Collins, CO, United States

Frank, Glenn Robert, Ft. Collins, CO, United States

Grieve, Robert B., Ft. Collins, CO, United States

PA Heska Corporation, Ft. Collins, CO, United States (U.S. corporation)

Colorado State University Research Foundation, Ft. Collins, CO, United States (U.S. corporation)

PI US 5639876 19970617

AI US 93-109391 19930819 (8)

RLI Continuation-in-part of Ser. No. US 93-3257, filed on 12 Jan 1993, now abandoned Ser. No. Ser. No. US 93-3389, filed on 12 Jan 1993, now abandoned And Ser. No. US 91-654226, filed on 12 Feb 1991, now abandoned

, said Ser. No. US -3257 And Ser. No. US -3389 , each Ser. No. US - which is a continuation-in-part of Ser. No. US -654226

DT Utility

EXNAM Primary Examiner: Sidberry, Hazel F.

LREP Sheridan Ross P.C.

CLMN Number of Claims: 14

ECL Exemplary Claim: 1

DRWN 2 Drawing Figure(s); 2 Drawing Page(s)

LN.CNT 2327

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to isolated parasitic helminth nucleic acid sequences capable of hybridizing, under stringent conditions, to at least a portion of D. **immitis** nucleic acid sequence p4 and/or to at least a portion of D. **immitis** nucleic acid sequence p22U; to isolated parasitic helminth proteins that are encoded by such parasitic helminth nucleic acid sequences and that are capable of selectively binding to at least one component of immune serum capable of inhibiting helminth development; and to antibodies raised against such isolated parasitic helminth proteins. The present invention also relates to therapeutic compositions comprising such isolated nucleic acid sequences, proteins and/or antibodies. The present invention also includes methods to produce and use such nucleic acids, proteins,

antibodies and therapeutic compositions capable of protecting animals from parasitic helminth infection and, particularly, from heartworm infection.

L4 ANSWER 82 OF 240 TOXLIT
AN 1997:46944 TOXLIT
DN CA-126-127883R
TI Cloning of filariid nematode cysteine **protease** cDNA, treatment of infection, and assays for inhibitors of the **protease**.
AU Wisniewski N; Grieve RB; Frank GR; Tripp CA
SO (1996). PCT Int. Appl. PATENT NO. 96 40884 12/19/96 (Colorado State University Research Foundation).
CY United States
DT Patent
FS CA
LA English
OS CA 126:127883
EM 199706
AB The present invention provides for filariid cysteine **protease** proteins; to filariid nematode cysteine **protease** nucleic acid mols., in particular, **Dirofilaria immitis** L3 larval cysteine **protease** nucleic acid mols. and *Onchocerca volvulus* L3 larval cysteine **protease** nucleic acid mols.; to antibodies raised against such proteins, and to compds. that inhibit filariid nematode cysteine **protease** activity. The present invention also includes methods to obtain such proteins, nucleic acid mols., antibodies and/or inhibitors. The present invention also includes therapeutic compns. comprising such proteins, nucleic acid mols., antibodies and/or inhibitors, and the use of such compns. to protect an animal from disease caused by parasitic helminths. The cDNA's for **Dirofilaria immitis** and *Onchocerca volvulus* cysteine proteinase were cloned, sequenced, and expressed in bacteria, insect cells, and mammalian cells.

L4 ANSWER 86 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 11
AN 1997:24126 BIOSIS
DN PREV199799323329
TI Carboxy-terminal sequence divergence and processing of the polyprotein antigen from **Dirofilaria immitis**.
AU Poole, Catherine B.; Hornstra, Linda J.; Benner, Jack S.; Fink, Jason R.; McReynolds, Larry A. (1)
CS (1) Mol. Parasitol. Div., New England Biolabs, Beverly, MA 01915 USA
SO Molecular and Biochemical Parasitology, (1996) Vol. 82, No. 1, pp. 51-65.
ISSN: 0166-6851.
DT Article
LA English
AB A polyprotein composed of multiple units arranged in direct tandem arrays has been identified in parasitic and free living nematodes. Analysis of previously cloned units from the **Dirofilaria immitis** polyprotein antigen (DiPA) indicated the units were nearly identical but here we demonstrate that they segregate into two related families. The consensus repeats, DiPA-CR1 and CR2, derived for each family are 80% identical. However, the repeats at the C-terminus of the polyprotein have diverged from DiPA-CR1 and CR2. This was shown by DNA sequence and Southern blot analysis of a 1.9 kb cDNA clone that encodes 4.4 C-terminal repeats (DiPA-TR1 through TR5). DiPA-TR3 through TR5 show 27-52% amino acid identity with the consensus repeats and 31-35% amino acid identity with one another. Metabolic labeling studies have shown that cleavage of DiPA generates a protein 'ladder' from 14 to gt 200 kDa. RRKR, a cleavage motif of subtilisin-like proprotein convertases, was identified as the natural cleavage site. In vitro digestion experiments with proteinase K suggest a structural model for DiPA consisting of **protease** resistant cores joined by **protease** sensitive linkers containing the RRKR site. This motif is absent between DiPA-TR3 and TR4 and has been altered to KR between DiPA-TR4 and TR5. An immunoblot of D.

immitis extract probed with anti-DiPA-TR4/5 serum demonstrates the absence of cleavage at these sites. These divergent repeats provide an opportunity to investigate processing of the D. **immitis** polyprotein in vivo.

L4 ANSWER 87 OF 240 CAPLUS COPYRIGHT 1999 ACS DUPLICATE 12
 AN 1996:134110 CAPLUS
 DN 124:169381
 TI Cloning of cDNA for parasitic **proteases** and their uses for preparing anti-parasite agents
 IN Tripp, Cynthia Ann; Frank, Glenn R.; Grieve, Robert B.
 PA Paravax, Inc., USA
 SO PCT Int. Appl., 120 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9532988	A1	19951207	WO 95-US6685	19950525
	W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TT				
	RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	CA 2189741	AA	19951207	CA 95-2189741	19950525
	AU 9526516	A1	19951221	AU 95-26516	19950525
	EP 766693	A1	19970409	EP 95-921435	19950525
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, PT, SE				
	JP 10500854	T2	19980127	JP 95-530582	19950525
	<u>US 5691186</u>	A	19971125	US 95-463262	19950605
	<u>US 5750391</u>	A	19980512	US 95-463989	19950605
PRAI	US 94-249552		19940526		
	WO 95-US6685		19950525		

AB The cDNAs encoding **astacin metalloendopeptidase** protein of **Dirofilaria immitis** (heartworm) and filariid cysteine **protease** protein are isolated and characterized., nucleic acid mols. having sequences that encode such proteins, antibodies raised against such proteins and compds. that can inhibit the activities of parasite **astacin metalloendopeptidases** or cysteine **proteases**. The cDNA can be used for the prodn. of the proteins and the antibodies against the proteins. The cDNAs and the antibodies are useful in the prepn. of anti-parasite compns.

L4 ANSWER 89 OF 240 BIOTECHDS COPYRIGHT 1999 DERWENT INFORMATION LTD
 AN 96-02647 BIOTECHDS
 TI Parasite **protease** genes and proteins;

nematode recombinant **astacin metalloendopeptidase** and cystein **protease** production, for application in parasite infection therapy

AU Tripp C A; Frank G R; Grieve R B

PA Paravax

LO Fort Collins, CO, USA.

PI WO 9532988 7 Dec 1995

AI WO 95-US6685 25 May 1995

PRAI US 94-249552 26 May 1994

DT Patent

LA English

OS WPI: 96-049308 [05]

AB The following are claimed: (1) an isolated parasite nucleic acid (I), hybridizing under strict conditions to a **Dirofilaria immitis astacin metalloendopeptidase** (AMEP) gene; (2) an

isolated protein (A) composed of the AMEP protein; (3) an isolated filariid nematode nucleic acid (II), hybridizing under strict conditions to a D. **immitis** cysteine **protease** (CP) gene; (4) an isolated protein (B), composed of the CP protein of a filariid nematode; (5) a recombinant cell with at least one nucleic acid of (I) or (II), and capable of expressing the nucleic acid; and (6) an isolated antibody capable of selectively binding to protein (A) or (B). (A) and (B) are useful, in a therapeutic composition for protecting animals from diseases

caused by parasites susceptible to an inhibitor of the AMEP or CP **proteases**. Mimetopes of (A) or (B) or nucleic acids (I) or (II), or antibodies to (A) or (B) or inhibitors of (A) or (B) can be used in place of the full **proteases**. (A) or (B) can also be used as fusion proteins or multivalent proteins. (121pp)

L4 ANSWER 95 OF 240 SCISEARCH COPYRIGHT 1999 ISI (R)
 AN 95:87993 SCISEARCH
 GA The Genuine Article (R) Number: QC635
 TI IMMUNODIAGNOSTIC POTENTIAL OF A FILARIAL **PROTEASE**
 AU BAL M (Reprint); DAS M K
 CS REG MED RES CTR, DIV PARASITE IMMUNOL, BHUBANESWAR 751016, ORISSA, INDIA (Reprint)

CYA INDIA
 SO CURRENT SCIENCE, (25 DEC 1994) Vol. 67, No. 12, pp. 1018-1020.
 ISSN: 0011-3891.
 DT Note; Journal
 FS AGRI
 LA ENGLISH
 REC Reference Count: 12

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
 AB An antigenic fraction has been isolated from adult worms of cattle filarial parasite *Setaria digitata*. The fraction exhibited high **protease** activity against azocoll with optimum pH at 7.0. Elevated levels of antibodies to the **protease** were observed in asymptomatic microfilaraemic individuals compared to the normal people of endemic regions. Such distinction was however not observed with the whole antigenic extracts of adult worms. The potential of the **protease** as immunodiagnostic antigen is indicated.

L4 ANSWER 97 OF 240 CAPLUS COPYRIGHT 1999 ACS DUPLICATE 15
 AN 1993:503307 CAPLUS
 DN 119:103307
 TI **Protease** vaccine against heartworm
 IN Grieve, Robert B.; Richer, Jennifer; Frank, Glenn R.; Sakanari, Judy
 PA Colorado State University Research Foundation, USA
 SO PCT Int. Appl., 33 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 7

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9310225	A1	19930527	WO 92-US9702	19921112
	W: AU, CA, JP				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, SE				
	AU 9230723	A1	19930615	AU 92-30723	19921112
	AU 675214	B2	19970130		
	EP 635058	A1	19950125	EP 92-924400	19921112
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, SE				
	JP 07501219	T2	19950209	JP 92-509382	19921112
PRAI	US 91-792209		19911112		
	WO 92-US9702		19921112		
AB	Animals are administered with an effective amt. of a metalloprotease and/or cysteine protease , which is obtainable from filarial				

nematode lysates in third larval stage (L3) or fourth stage (L4), to immunol. protect the subjects against filarial infection.
Dirofilaria immitis was cultured and a **protease** was obtained by purifying L3/L4 lysates with a column chromatog. and assaying fractions for proteolytic activity on synthetic substrates, i.e. benzyloxycarbonyl-Val-Leu-Arg-7-amido-4-methylcoumarin and Phe-7-amido-4-methylcoumarin.

L4 ANSWER 98 OF 240 TOXLIT
AN 1993:91805 TOXLIT
DN CA-119-103307K
TI **Protease** vaccine against heartworm.
AU Grieve RB; Richer J; Frank GR; Sakanari J
SO (1993). PCT Int. Appl. PATENT NO. 93 10225 05/27/93 (Colorado State University Research Foundation).
CY United States
DT Patent
FS CA
LA English
OS CA 119:103307
EM 199310
AB Animals are administered with an effective amt. of a metalloprotease and/or cysteine **protease**, which is obtainable from filarial nematode lysates in third larval stage (L3) or fourth stage (L4), to immunol. protect the subjects against filarial infection.
Dirofilaria immitis was cultured and a **protease** was obtained by purifying L3/L4 lysates with a column chromatog. and assaying fractions for proteolytic activity on synthetic substrates, i.e. benzyloxycarbonyl-Val-Leu-Arg-7-amido-4-methylcoumarin and Phe-7-amido-4-methylcoumarin.

L4 ANSWER 103 OF 240 CAPLUS COPYRIGHT 1999 ACS
AN 1994:102602 CAPLUS
DN 120:102602
TI **Proteases** produced by **Dirofilaria immitis** third- and fourth-stage larvae
AU Richer, Jennifer K.
CS Colorado State Univ., Fort Collins, CO, USA
SO (1992) 74 pp. Avail.: Univ. Microfilms Int., Order No. DA9231823
From: Diss. Abstr. Int. B 1992, 53(6), 2599
DT Dissertation
LA English
AB Unavailable

L4 ANSWER 128 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 26
AN 1987:337867 BIOSIS
DN BA84:46810
TI PROTEOLYTIC CLEAVAGE OF IGG AND OTHER PROTEIN SUBSTRATES BY **DIROFILARIA-IMMITIS** MICROFILARIAL ENZYMES.
AU TAMASHIRO W K; RAO M; SCOTT A L
CS DEP. IMMUNOL. INFECTIOUS DISEASES, SCH. HYGIENE PUBLIC HEALTH, JOHN HOPKINS UNIV., BALTIMORE, MD. 21205.
SO J PARASITOL, (1987) 73 (1), 149-154.
CODEN: JOPAA2. ISSN: 0022-3395.
FS BA; OLD
LA English
AB **Proteases** were detected in aqueous extracts of **Dirofilaria immitis** microfilariae. Enzymes within the extract were capable of hydrolyzing Azocoll, a general **protease** substrate, at pH's 7, 8, and 9. Sensitivities to a variety of **protease** inhibitors indicated that multiple azocollytic enzymes were present in the extract, most prominent of which appear to belong to the serine class of **proteases**. By incorporating various substrates into the matrices of polyacrylamide gels, 2 SDS-resistant, mercaptoethanol-sensitive **proteases** in the MF extract were

identified at 22 and 76 kDa. These **proteases** showed differential abilities to digest casein, fibrinogen, hemoglobin, and IgG. The MF extract hydrolyzed radiolabeled IgG into 8-10-kDa fragments following a 20-hr incubation. A similar degree of digestion was observed in 2 hr when viable microfilariae were used. The potential significance of these **proteases** in the evasion of host effector mechanisms is discussed.

L4 ANSWER 130 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 27

AN 1986:195065 BIOSIS

DN BR30:106937

TI **PROTEOLYTIC ENZYMES** IN EXTRACTS OF **DIROFILARIA**
-IMMITIS MICROFILARIAE.

AU SCOTT A L; TAMASHIRO W K; RAO M

CS JOHNS HOPKINS UNIVERSITY, BALTIMORE, MD. 21205.

SO SYMPOSIUM ON MOLECULAR STRATEGIES OF PARASITIC INVASION HELD AT THE 15TH ANNUAL UCLA (UNIVERSITY OF CALIFORNIA-LOS ANGELES) MEETING ON MOLECULAR AND CELLULAR BIOLOGY, LOS ANGELES, CALIF., USA, JAN. 26-31, 1986. J CELL BIOCHEM SUPPL. (1986) 0 (10 PART A), 174.

CODEN: JCBSD7.

DT Conference

FS BR; OLD

LA English

L4 ANSWER 145 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS

AN 1980:18896 BIOSIS

DN BR18:18896

TI **PEPTIDASE** ACTIVITY OF COCCIDIOIDES-**IMMITIS**.

AU KLIMOVA I M; GOLOSEEV YU A; SHELOKHOVICH A I

CS VOLGOGR. ANTIPLAGUE SCI. RES. INST., VOLGOGRAD, USSR.

SO Biochemistry (Engl. Transl.), (1978 (1979)) 43 (11 PART 2), 1629-1632.

CODEN: BIORAK. ISSN: 0006-2979.

FS BR; OLD

LA English

L4 ANSWER 146 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 35

AN 1979:222230 BIOSIS

DN BA68:24734

TI **PEPTIDASE** ACTIVITY OF COCCIDIOIDES-**IMMITIS**.

AU KLIMOVA I M; GOLOSEEV YU A; SHELOKHOVICH A I

CS VOLGOGR. ANTIPLAGUE RES. INST., VOLGOGRAD, USSR.

SO BIOKHEMIYA, (1978 (RECD 1979)) 43 (11), 2069-2073.

CODEN: BIOHAO. ISSN: 0006-307X.

FS BA; OLD

LA Russian

AB Glycyl-L-leucine hydrolase consisting of 3 molecular units was extracted from C. **immitis** solid cultural medium. During fractionation in polyacrylamide gel of the enzyme-containing extract a 50-fold purification

of the enzyme isoform with a 12,800 MW is achieved. The enzyme is heat-stable, active in the narrow pH range and hydrolyzes peptide bonds containing glycine. Its activity is not inhibited by any of the **protease** inhibitors tested.

L4 ANSWER 147 OF 240 AGRICOLA

AN 79:14368 AGRICOLA

DN IND79012311

TI **Peptidase** activity of *Coccidioides immitis* Fungus.

AU Klimova, I.M.; Goloseev, I.U.A.; Shelokhovich, A.I.

AV DNAL (385 B523)

SO Biokhimiia, Nov 1978 Vol. 43, No. 11. p. 2069-2073 ill

Publisher: Moskva, Akademiia nauk SSSR

ISSN: 0006-307X

NTE 8 ref.

DT Article

LA Russian

SL English

L4 ANSWER 148 OF 240 SCISEARCH COPYRIGHT 1999 ISI (R)
AN 79:271235 SCISEARCH
GA The Genuine Article (R) Number: GZ114
TI **PEPTIDASE** ACTIVITY OF COCCIDIOIDES-**IMMITIS**
AU KLIMOVA I M (Reprint); GOLOSEEV Y A; SHELOKHOVICH A I
CS VOLGOGRAD ANTIPLAGUE RES INST, VOLGOGRAD, USSR (Reprint)
CYA USSR
SO BIOCHEMISTRY-RUSSIA, (1978) Vol. 43, No. 11, pp. 1629-1632.
DT Article; Journal
FS LIFE
LA ENGLISH
REC Reference Count: 9

L4 ANSWER 159 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
AN 98P-W69546 Protein DGENE
TI Nematode larval **protease** proteins - useful for vaccination, etc
IN Frank G R; Grieve R B; Richer J K; Tripp C A; Wisnewski N
PA (HESK-N) HESKA CORP
(COLS) UNIV COLORADO STATE RES FOUND
PI US 5792624 A 980811 22 pp
AI US 95-482282 950607
PRAI US 95-482282 950607
US 91-654226 910212
US 91-792209 911112
US 93-101283 930803
US 93-153554 931116
DT Patent
LA English
OS 98-456128 [39]
AB The present sequence represents an L3 larval **protease** protein from **Dirofilaria immitis**. An embodiment of the present invention is an isolated filariid nematode nucleic acid molecule that hybridises, under stringent hybridisation conditions, with a **Dirofilaria immitis** L3 larval cysteine **protease** gene and/or an Onchocerca volvulus L3 larval cysteine **protease** gene. A filariid nematode cysteine **protease** protein of the present invention preferably has cysteine **protease** activity and/or comprises a protein that, when administered to an animal, is capable of eliciting an immune response against a natural helminth cysteine **protease** protein. This sequence can be used in a therapeutic composition capable of protecting an animal from disease caused by a parasitic helminth

L4 ANSWER 160 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
AN 98P-W69545 Protein DGENE
TI Nematode larval **protease** proteins - useful for vaccination, etc
IN Frank G R; Grieve R B; Richer J K; Tripp C A; Wisnewski N
PA (HESK-N) HESKA CORP
(COLS) UNIV COLORADO STATE RES FOUND
PI US 5792624 A 980811 22 pp
AI US 95-482282 950607
PRAI US 95-482282 950607
US 91-654226 910212
US 91-792209 911112
US 93-101283 930803
US 93-153554 931116
DT Patent
LA English
OS 98-456128 [39]
AB The present sequence represents an L3 larval **protease** protein from **Dirofilaria immitis**. An embodiment of the present invention is an isolated filariid nematode nucleic acid molecule that hybridises, under stringent hybridisation conditions, with a

Dirofilaria immitis L3 larval cysteine **protease** gene and/or an *Onchocerca volvulus* L3 larval cysteine **protease** gene. A filariid nematode cysteine **protease** protein of the present invention preferably has cysteine **protease** activity and/or comprises a protein that, when administered to an animal, is capable of eliciting an immune response against a natural helminth cysteine **protease** protein. This sequence can be used in a therapeutic composition capable of protecting an animal from disease caused by a parasitic helminth

L4 ANSWER 161 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
 AN 98P-W69544 Protein DGENE
 TI Nematode larval **protease** proteins - useful for vaccination, etc
 IN Frank G R; Grieve R B; Richer J K; Tripp C A; Wisniewski N
 PA (HESK-N) HESKA CORP
 (COLS) UNIV COLORADO STATE RES FOUND
 PI US 5792624 A 980811 22 pp
 AI US 95-482282 950607
 PRAI US 95-482282 950607
 US 91-654226 910212
 US 91-792209 911112
 US 93-101283 930803
 US 93-153554 931116
 DT Patent
 LA English
 OS 98-456128 [39]
 AB The present sequence represents an L3 larval **protease** protein from *Onchocerca volvulus*. An embodiment of the present invention is an isolated filariid nematode nucleic acid molecule that hybridises, under stringent hybridisation conditions, with a **Dirofilaria immitis** L3 larval cysteine **protease** gene and/or an *Onchocerca volvulus* L3 larval cysteine **protease** gene. A filariid nematode cysteine **protease** protein of the present invention preferably has cysteine **protease** activity and/or comprises a protein that, when administered to an animal, is capable of eliciting an immune response against a natural helminth cysteine **protease** protein. This sequence can be used in a therapeutic composition capable of protecting an animal from disease caused by a parasitic helminth

L4 ANSWER 168 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
 AN 96P-R87592 Protein DGENE
 TI **Dirofilaria immitis** astacin metallo:endo:
peptidase and cysteine **protease** genes and proteins -
 useful for protecting animals from parasitic-based diseases by
 inhibiting
 parasite larval development
 IN Frank G R; Grieve R B; Tripp C A
 PA (PARA-N) PARAVAX INC
 PI WO 9532988 A1 951207 121 pp
 AI WO 95-US6685 950525
 PRAI US 94-249552 940526
 DT Patent
 LA English
 OS 96-049308 [05]
 AB R87592 is derived from a genomic DNA sequence representing a partial **Dirofilaria immitis** cysteine **protease** (CP) gene encoding a 47 amino acid protein having homology with parasite specific CPs e.g. CP from *Trypanosoma brucei*, *Leishmania pifanoi*, *Leishmania mexicana*, *Trypanosoma congolense* and *Trichomonas vaginalis*, the CP also shares homology with that of nematodes *C. elegans* and *H. contortus*. The encoded CP protein is useful in therapeutic compsns. for protecting animals against diseases caused by parasites susceptible to
 CP inhibitors. Mimetopes of CP or nucleic acids encoding the CP, anti-CP

antibodies or other inhibitors of CP (not specified) may be used in place of the full **protease**. The CP may also be used as a fusion protein or multivalent protein

L4 ANSWER 178 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
AN 98N-V40253 DNA DGENE
TI Nematode larval **protease** proteins - useful for vaccination, etc
IN Frank G R; Grieve R B; Richer J K; Tripp C A; Wisniewski N
PA (HESK-N) HESKA CORP
(COLS) UNIV COLORADO STATE RES FOUND

PI US 5792624 A 980811 22 pp
AI US 95-482282 950607
PRAI US 95-482282 950607
US 91-654226 910212
US 91-792209 911112
US 93-101283 930803
US 93-153554 931116

DT Patent

LA English

OS 98-456128 [39]

AB The present sequence represents a PCR primer for an L3 larval **protease** protein from **Dirofilaria immitis**. An embodiment of the present invention is an isolated filariid nematode nucleic acid molecule that hybridises, under stringent hybridisation conditions, with a **Dirofilaria immitis** L3 larval cysteine **protease** gene and/or an *Onchocerca volvulus* L3 larval cysteine **protease** gene. A filariid nematode cysteine **protease** protein of the present invention preferably has cysteine **protease** activity and/or comprises a protein that, when administered to an animal, is capable of eliciting an immune response against a natural helminth cysteine **protease** protein. The L3 larval cysteine **protease** sequence can be used in a therapeutic composition capable of protecting an animal from disease caused by a parasitic helminth

L4 ANSWER 216 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
AN 96N-T18866 DNA DGENE
TI **Dirofilaria immitis** astacin metallo:endo:

peptidase and cysteine **protease** genes and proteins -
useful for protecting animals from parasitic-based diseases by inhibiting

parasite larval development
IN Frank G R; Grieve R B; Tripp C A
PA (PARA-N) PARAVAX INC
PI WO 9532988 A1 951207 121 pp
AI WO 95-US6685 950525
PRAI US 94-249552 940526

DT Patent

LA English

OS 96-049308 [05]

AB T18866 and T18867 are primers used in the cloning and sequencing of DNA encoding a partial **Dirofilaria immitis** cysteine **protease** (CP) gene. CP proteins are useful in therapeutic compsns. for protecting animals against diseases caused by parasites susceptible to CP inhibitors. Mimetopes of CP or nucleic acids encoding the CP, anti-CP antibodies or other inhibitors of CP (not specified) may be used in place of the full **protease**. CP may also be used as a